

MAURITIUS

ANNUAL REPORT  
ON THE  
MEDICAL & HEALTH  
DEPARTMENT  
1924



[G. Lehmann (T. B.) Director]





# SUMMARY OF VITAL STATISTICS for the five years 1920-1924.

| Subject   | 1920    | 1921                   | 1922    | 1923     | 1924    |
|---|---------|------------------------|---------|----------|---------|
| I.—Population (estimated) <sup>(a)</sup>              |         |                        |         |          |         |
| Port Louis district - - -                             | 39,300  | <sup>(d)</sup> 51,038  | 50,973  | 51,769   | 53,215  |
| Whole Island - - -                                    | 365,107 | <sup>(d)</sup> 376,314 | 377,594 | 381,678  | 387,743 |
| II.—Density of Population per sq. mile <sup>(a)</sup> |         |                        |         |          |         |
| Port Louis district (Area 16 sq. miles) - - -         | 2456.2  | 3,189.87               | 3,185.8 | 3,235.56 | 3,325.9 |
| Whole Island (Area 720 sq miles)                      | 507.09  | 522.6                  | 524.4   | 530      | 538.5   |
| III.—Marriages  |         |                        |         |          |         |
| Port Louis - - -                                      | 474     | 460                    | 385     | 404      | 407     |
| Whole Island - - -                                    | 2,126   | 2,351                  | 1,884   | 2,075    | 2,144   |
| IV.—Birth-rate <sup>(b)</sup> ‰                       |         |                        |         |          |         |
| Port Louis - - -                                      | 37.3    | 37.5                   | 37.3    | 39.9     | 42.9    |
| Whole Island  | 35.1    | 38.1                   | 37.0    | 36.8     | 40.4    |
| V.—Death-rate <sup>(b)</sup> ‰                        |         |                        |         |          |         |
| Port Louis - - -                                      | 47.3    | 53.2                   | 42.6    | 34.1     | 34.6    |
| Whole Island - - -                                    | 32.3    | 40.3                   | 34.5    | 28.5     | 27.7    |
| VI.—Infantile Mortality <sup>(c)</sup> —Whole Island  | 156.3   | 176.7                  | 147.9   | 139.4    | 129.6   |

<sup>(a)</sup> On 31st December of each year.

<sup>(b)</sup> On population on 1st January of each year.

<sup>(c)</sup> Number of deaths among infants under 1 year for each 1,000 live births registered.

<sup>(d)</sup> As a result of the 1921 decennial Census, a re-adjustment of the estimated population of each district was possible.



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## A circular library stamp with the text "TROPICAL DISEASES BUREAU" around the top edge, "LIBRARY" in the center, and "28 SEP 1925" at the bottom. A small star symbol is at the very bottom center.

## ON THE

(1st JANUARY TO 31st DECEMBER 1924)

## POPULATION.

The estimated population of the Colony on 31st December 1923 was - 381,678

The excess of births over deaths in 1924 was - - - - - 4,872

|  |   |   |   |   |   |       |
|--|---|---|---|---|---|-------|
| The excess of arrivals over departures in 1924 was | - | - | - | - | - | 1.193 |
|--|---|---|---|---|---|-------|

The estimated population of the Colony on 31st December 1924 was- - 387,743

The distribution of the population and density for each district are shown hereunder:—

| Districts           | Area<br>in<br>square<br>miles | General Population |              |            | Indian Population |         |         | Total Population |         |           | Dens-<br>ity per<br>square<br>mile |
|---------------------|-------------------------------|--------------------|--------------|------------|-------------------|---------|---------|------------------|---------|-----------|------------------------------------|
|                     |                               | Males              | Fe-<br>males | Total      | Males             | Females | Total   | Males            | Females | Total     |                                    |
| Port Louis ...      | 16                            | 15,900             | 14,243       | 30,143     | 12,174            | 10,898  | 23,072  | 28,074           | 25,141  | 53,215    | 3,325.9                            |
| Pamplemousses ...   | 69                            | 3,352              | 3,169        | 6,521      | 16,146            | 14,706  | 30,852  | 19,498           | 17,875  | 37,373    | 541.6                              |
| Riv. du Rempart ... | 57½                           | 3,054              | 2,709        | 5,763      | 13,826            | 12,918  | 26,744  | 16,880           | 15,627  | 32,507    | 565.3                              |
| Flacq ...           | 115                           | 5,447              | 5,026        | 10,473     | 22,685            | 20,795  | 43,480  | 28,132           | 25,821  | 53,953    | 469.1                              |
| Grand Port ...      | 101                           | 6,570              | 6,230        | 12,800     | 19,875            | 17,714  | 37,589  | 26,445           | 23,944  | 50,389    | 498.9                              |
| Savanne ...         | 93½                           | 3,802              | 3,608        | 7,410      | 14,110            | 12,471  | 26,581  | 17,912           | 16,079  | 33,991    | 363.5                              |
| Plaines Wilhems ... | 78                            | 15,135             | 18,011       | 33,146     | 24,369            | 23,131  | 47,500  | 39,504           | 41,142  | 80,646    | 1,033.9                            |
| Moka ...            | 89                            | 2,680              | 2,749        | 5,429      | 13,584            | 12,380  | 25,964  | 16,264           | 15,129  | 31,393    | 352.7                              |
| Black River ...     | 101                           | 2,615              | 2,485        | 5,100      | 4,853             | 4,323   | 9,176   | 7,468            | 6,808   | (5)14,276 | 141.3                              |
| Total ...           | 720                           | (2)58,555          | 58,230       | (3)116,785 | (4)141,622        | 129,336 | 270,958 | 200,177          | 187,566 | 387,743   | 538.5                              |

For the district of Port Louis, the density per square mile was 3,049 at the decennial Census of 1921, and 3,325.9 on the estimated population on 31st December, 1924.

Beau Bassin and Rose Hill ... 4,210 persons per square mile

Quatre Bornes ... 4,550 „ „

|          |     |     |       |   |   |
|----------|-----|-----|-------|---|---|
| Curepipe | ... | ... | 5,077 | „ | „ |
|----------|-----|-----|-------|---|---|

A high density of population *per se* is not necessarily associated with a heavy death-rate, although it commonly carries with it other evils e.g. increased liability to fouling of the air, the soil and the water, and the easy spread of infectious diseases. The housing accommodation and the conditions of living of a community are of more importance in connection with health than the number of persons living on a square mile.

2,144 marriages were celebrated in 1924 against 2,075 in 1923 showing an increase of 69. This is equivalent to a marriage rate (number of *persons married* to every thousand of population) of 11.2 ‰ against 10.9 in 1923 and 10.0 in 1922.

(1) The figure for 31st December 1924 was not available when submitting this report.

(2) Excess of males over females in General population including Chinese: 325.—Excluding Chinese, the General population shows an excess of 4,156 females over males.

(3) General population excluding Chinese: 108,354.

Chinese " : 8,431 (6,456 males and 1,975 females).

(4) Excess of males over females in Indian population: 12,286.

(5) Black River is the only district in which the population has decreased.



## BIRTHS

The total number of births for the year was 15,430 (7,882 males and 7,548 females; 4,842 in the General and 10,588 in the Indian population) showing an increase of 1,551 over the figure for 1923.

The birth-rate was 40.4 ‰ against 36.8 in 1923; 37.0 in 1922; an average of 37.7 for the quinquennial period 1920–24 and 36.68 for the quinquennial period preceding 1924.

The district birth-rates (on population as at 1st January of each year and the five-year mean rates are as follows:—

| District             | 1920 | 1921 | 1922 | 1923 | 1924 | Mean ‰ |
|----------------------|------|------|------|------|------|--------|
| Port Louis -         | 37.3 | 37.5 | 37.3 | 39.9 | 42.9 | 41.04  |
| Pamplemousses -      | 35.2 | 39.9 | 36.0 | 31.0 | 37.4 | 36.3   |
| Rivière du Rempart - | 37.3 | 45.9 | 37.2 | 32.6 | 41.2 | 38.2   |
| Flacq -              | 33.9 | 37.1 | 32.7 | 34.3 | 38.4 | 35.6   |
| Grand Port -         | 34.9 | 32.9 | 35.8 | 36.1 | 37.0 | 35.6   |
| Savanne -            | 35.5 | 35.1 | 39.3 | 39.2 | 38.9 | 37.2   |
| Plaines Wilhems -    | 33.8 | 39.9 | 39.7 | 39.7 | 44.0 | 39.5   |
| Moka -               | 35.6 | 42.4 | 43.4 | 42.8 | 46.7 | 40.7   |
| Black River -        | 32.6 | 29.7 | 26.6 | 27.3 | 27.6 | 29.2   |
| Whole Colony -       | 35.1 | 38.1 | 37.0 | 36.8 | 40.4 | 37.7   |

It will be seen that Moka maintains the first place and Black River the last.

The rates for Port Louis, Flacq, Grand Port, Plaines Wilhems and Moka for 1924 are the highest for the five years under review.

## EARLY NOTIFICATION OF BIRTHS.

Under existing legislation a delay of 45 days is granted for the registration of births.

The necessity, from the public health point of view, of making compulsory the early notification of births has been urged very strongly. Close and immediate investigation of factors affecting the life of the community is extremely difficult and unavoidably delayed otherwise.

Legal power in that respect will, it is hoped, soon be an accomplished fact. The early notice required is to be in addition to, and not in substitution for, the declaration which has to be made to the Registrar General or his Civil Status Officers.

(When submitting this report, the requisite bill had been drafted and had been read a first time at the Legislative Council. It has been subsequently passed, and published, as Ordinance No. 14 of 1925).

## DEATHS.

During the year 1924, the total number of deaths was 10,558 or 220 less than in 1923 and 2,409 less than in 1922.

The death-rate for the Colony was 27.7 ‰ compared with 28.5 ‰ for 1923, 34.5 for 1922, 40.33 for the quinquennial period preceding 1924 and 32.7 for the five-year period 1920–24. The month of maximum mortality was July (due mostly to deaths from influenza); in 1923 also it was July.

The following table shows the district death-rates(\*) yearly for the period 1920–24 and the average rates for the same period:—

| District             | 1920 | 1921 | 1922 | 1923 | 1924 | Average ‰ |
|----------------------|------|------|------|------|------|-----------|
| Port Louis -         | 47.3 | 53.2 | 42.6 | 34.1 | 34.6 | 44.2      |
| Pamplemousses -      | 32.5 | 40.9 | 39.0 | 34.1 | 30.5 | 35.8      |
| Rivière du Rempart - | 23.1 | 35.5 | 37.3 | 27.9 | 26.8 | 28.9      |
| Flacq -              | 29.9 | 39.4 | 35.3 | 27.8 | 28.1 | 32.4      |
| Grand Port -         | 39.0 | 42.9 | 40.8 | 34.6 | 31.0 | 37.9      |
| Savanne -            | 34.7 | 42.4 | 29.4 | 25.7 | 24.8 | 31.1      |
| Plaines Wilhems -    | 25.2 | 30.5 | 23.8 | 21.0 | 20.6 | 24.2      |
| Moka -               | 27.0 | 40.9 | 32.1 | 25.8 | 24.3 | 29.0      |
| Black River -        | 40.9 | 41.8 | 35.1 | 30.5 | 36.5 | 37.6      |
| Whole Colony -       | 32.3 | 40.3 | 34.5 | 28.5 | 27.7 | 32.7      |

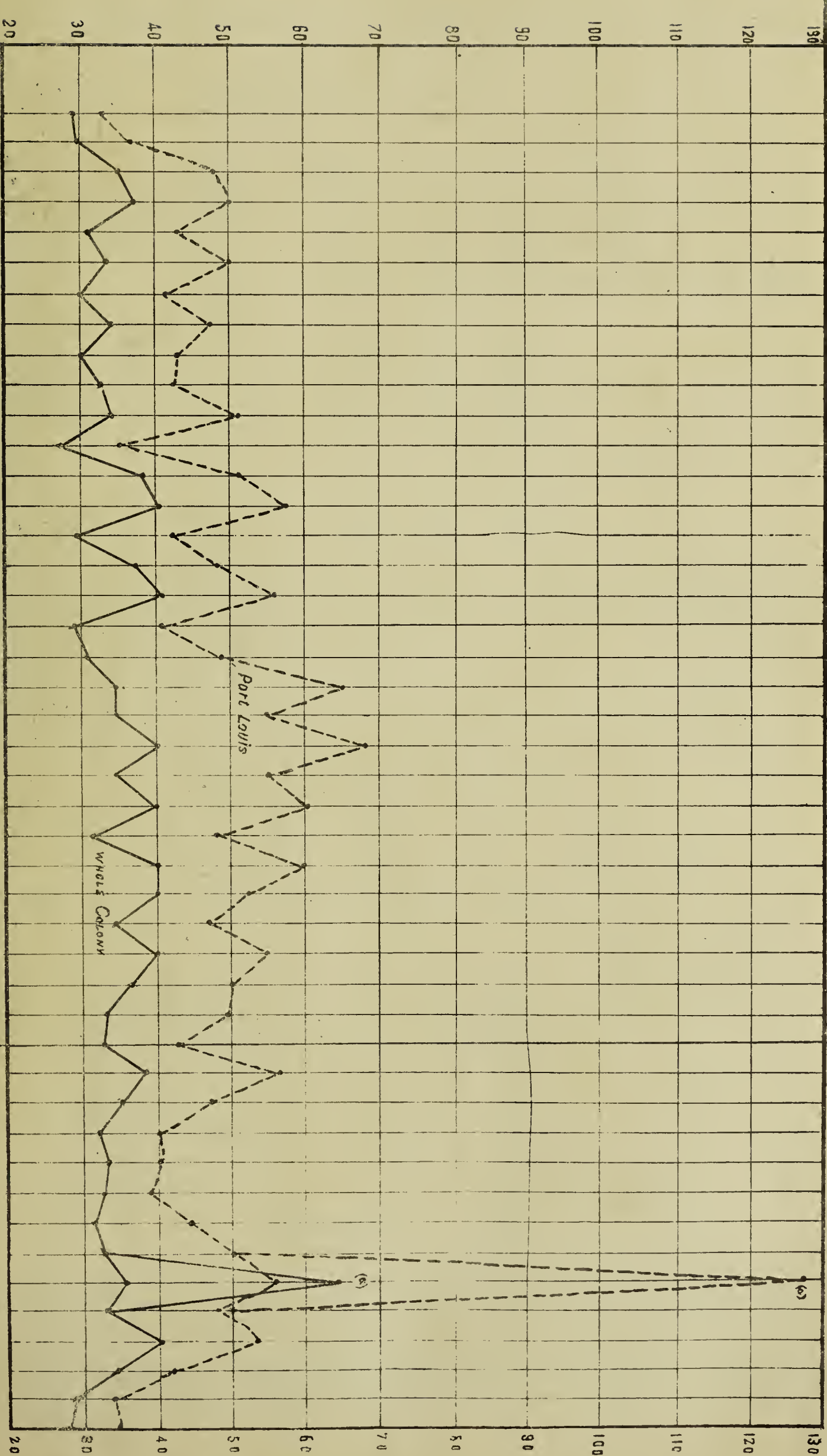
The annexed graph shows the death-rates for Port Louis and the whole Colony from 1880 to 1924.

The death-rate for the whole Colony (27.7 ‰) is the *lowest since* 1880 (28.71 ‰), 1891 excepted, when the rate was 27.2 ‰.

(\*) These are crude death-rates i.e. deaths irrespective of any consideration as to whether they are indigenous to the district or imported from another district.



# GRAPH SHEWING THE



\* THE HIGHER RATES FOR 1919 ARE THOSE INCLUSIVE OF THE DEATHS ATTRIBUTED TO THE INFLUENZA EPIDEMIC

LOWER " " " " " EXCLUSIVE - -







For Port Louis, the rate (34.6 ‰) is the *lowest since* 1880 (33.5 ‰) excepting 1923 when it was 34.1 ‰.

In considering the district death-rates for 1924 it will be seen that Black River has the highest figure and Plaines Wilhems the lowest. The rates for Pamplémousses, Grand Port, Savanne, Plaines Wilhems and Moka are the lowest for the five years under review; and those for Port Louis and Flacq, the lowest excepting the rate for 1923. Rivière du Rempart tends to come down to the comparatively low rate of 23.1 ‰ for 1920, whereas Black River is again over 35 ‰.

The following tables are of interest in showing the rates of a few countries and British Colonies in comparison with this Colony in respect to Births, Deaths and density of population :—

| Country or Colony         | Density of population per square mile | Birth-Rate ‰ | Death-Rate ‰ | Remarks   |
|---------------------------|---------------------------------------|--------------|--------------|---|
| Belgium ...               | 658                                   | 23.7         | 15.2         | From Whitaker's Almanack 1925                         |
| England ...               | 701                                   | 23.1         | 13.7         |   |
| Great Britain and Ireland | 391                                   | 20.7         | 13.1         |   |
| England and Wales ..      | ...                                   | 19.7         | 11.6         | 1923—official   |
| France ...                | 187                                   | 18.7         | 18.4         | From Whitaker's Almanack 1925                         |
| Germany ...               | 348                                   | 29.8         | 16.2         |   |
| Japan ...                 | 339                                   | 34.2         | 21.9         |   |
| Fiji ...                  | ...                                   | 31.86        | 15.93        | 1922  |
| Tasmania ...              | ...                                   | 26.97        | 10.30        | 1921  |
| Jamaica ...               | ...                                   | 32.28        | 33.90        | 1921  |
| British Guiana ...        | 3.3                                   | 27.8         | 29.1         | 1922  |
| Trinidad ...              | ...                                   | 34.8         | 20.9         | 1923  |
| Seychelles ...            | ...                                   | 30.62        | 11.79        | 1923—Most tropical diseases are unknown in Seychelles |
| Ceylon ...                | 181.35                                | 38.5         | 27.4         | 1922  |
| Straits Settlements ...   | ...                                   | 30.47        | 30.68        | 1922  |
| Mauritius ...             | 538.5                                 | 40.4         | 27.7         | 1924  |

The number of deaths due to malaria and malarial cachexia (highest death-producing factors in Mauritius) is 1,732 against 1,979 in 1923 and 3,526 in 1922, or a percentage of total deaths of 16.4 in 1924, 18.3 in 1923 and 27.2 in 1922.

No doubt can be attached to the improvement in the health conditions which these figures denote if it is remembered that in Port Louis no death is registered unless certified by a medical practitioner.

The comparison of the number of deaths due to malaria in Port Louis, every year from 1918, can therefore but enhance the facts revealed by the returns for the whole Colony :—

DEATHS FROM MALARIA IN PORT LOUIS

|      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|
| 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 |
| 400  | 518  | 339  | 333  | 371  | 169  | 120  |

The returns for 1924 for the various districts are as under :—

| Districts                    | Deaths from |                   |
|------------------------------|-------------|-------------------|
|                              | Malaria     | Malarial cachexia |
| Port Louis - - - - -         | 120         | 2                 |
| Pamplémousses - - - - -      | 131         | 4                 |
| Rivière du Rempart - - - - - | 176         | ...               |
| Flacq - - - - -              | 443         | 7                 |
| Grand Port - - - - -         | 360         | 8                 |
| Savanne - - - - -            | 127         | 1                 |
| Plaines Wilhems - - - - -    | 44          | 2                 |
| Moka - - - - -               | 155         | 1                 |
| Black River - - - - -        | 151         | ...               |
| Whole Colony - - - - -       | 1,707       | 25                |

The statement made in the report for 1923, that “ Mauritius is already remarkably deriving the benefit that was justly expected from the improved and energetic methods of Public Health campaign started three years ago and pushed on unremittingly ” is therefore further confirmed.

The next high causes of death are Pneumonia and Broncho-Pneumonia, 1,296 in 1924 against 1,393 in 1923 and 1,538 in 1922; and diseases of early infancy, 1,075 against 1,026 in 1923, 1,002 in 1922 and 1,068 in 1921.



The following table, with the figures for 1923 inserted for purposes of easy comparison, summarises the causes of death and the rates in the usual groups :—

| Group  | No. of deaths |        | Rate per o/oo |      |
|--|---------------|--------|---------------|------|
|  | 1923          | 1924   | 1923          | 1924 |
| I. General Diseases - - - - -  | 4,418         | 4,300  | 11.7          | 11.3 |
| II. Diseases of the nervous system and of organs of the special senses - - - - - | 401           | 425    | 1.1           | 1.1  |
| III. Diseases of the circulatory system - - - - -                                | 206           | 223    | .5            | .6   |
| IV. Diseases of the respiratory system - - - - -                                 | 2,039         | 1,947  | 5.4           | 5.1  |
| V. Diseases of the digestive system - - - - -                                    | 995           | 923    | 2.6           | 2.4  |
| VI. Non-venereal diseases of the genito-urinary system and annexa - - - - -      | 524           | 515    | 1.4           | 1.3  |
| VII. The puerperal state - - - - -   | 228           | 260    | .6            | .7   |
| VIII. Diseases of the skin and of the cellular tissue - - - - -                  | 55            | 44     | .2            | .1   |
| IX. Diseases of the bones and of the organs of locomotion - - - - -              | 8             | 11     | .0            | .0   |
| X. Malformations - - - - -   | 5             | 4      | .0            | .0   |
| XI. Diseases of early infancy - - - - -  | 1,026         | 1,075  | 2.7           | 2.8  |
| XII. Old age - - - - -   | 213           | 216    | .6            | .6   |
| XIII. Affections produced by external causes - - - - -                           | 129           | 130    | .3            | .3   |
| XIV. Ill-defined - - - - -   | 531           | 485    | 1.4           | 1.4  |
| All causes - - - - -   | 10,778        | 10,558 | 28.5          | 27.7 |

The more notable causes of death were as under (the figures for 1923 are also given for purposes of comparison) :—

| Diseases  | Number of deaths |        | Percentage of total deaths. |      |
|---|------------------|--------|-----------------------------|------|
|   | 1923             | 1924   | 1923                        | 1924 |
| Malaria and malarial cachexia - - - - -             | 1,979            | 1,732  | 18.3                        | 16.4 |
| Pneumonia and Broncho-pneumonia - - - - -           | 1,393            | 1,296  | 12.9                        | 12.3 |
| Influenza - - - - -                                 | 556              | 760    | 5.2                         | 7.2  |
| Diseases of early infancy - - - - -                 | 1,026            | 1,075  | 9.5                         | 10.2 |
| Pulmonary tuberculosis - - - - -                    | 828              | 869    | 7.7                         | 8.2  |
| Diarrhoea and Enteritis - - - - -                   | 625              | 547    | 5.8                         | 5.2  |
| Bronchitis - - - - -                                | 521              | 537    | 4.8                         | 5.1  |
| Old age - - - - -                                   | 213              | 216    | 2.0                         | 2.0  |
| Dysentery - - - - -                                 | 318              | 336    | 3.0                         | 3.2  |
| Albuminuria, Bright's disease, Nephritis and Uræmia | 498              | 485    | 4.6                         | 4.6  |
| Debility (over 1 year and under 70) - - - - -       | 357              | 335    | 3.3                         | 3.17 |
| Plague - - - - -                                    | 118              | (*)146 | 1.1                         | 1.38 |
| Heart diseases (organic) - - - - -                  | 151              | 148    | 1.4                         | 1.4  |
| The puerperal state - - - - -                       | 228              | 260    | 2.1                         | 2.5  |

Deaths due to preventable diseases *i.e.* diseases due to faulty sanitary conditions, overcrowding, soil infection, defective or infected water supplies, numbered 3,906 or 37% of total deaths against 4,227 and 39.2% in 1923 and 6,343 and 48.9% in 1922.

Deaths due to infantile diarrhoea and infantile convulsions are not included in this figure.

#### INFANTILE MORTALITY

Infantile Mortality rate is the annual number of deaths of infants under one year for every thousand live births registered during the same year. It is considered as affording the most reliable test of the general sanitary conditions of a district and is therefore a most important index from the public health point of view.

The rate for 1924 was 129.6‰ as against 139.4, 147.9 and 176.7 in 1923, 1922 and 1921 respectively.

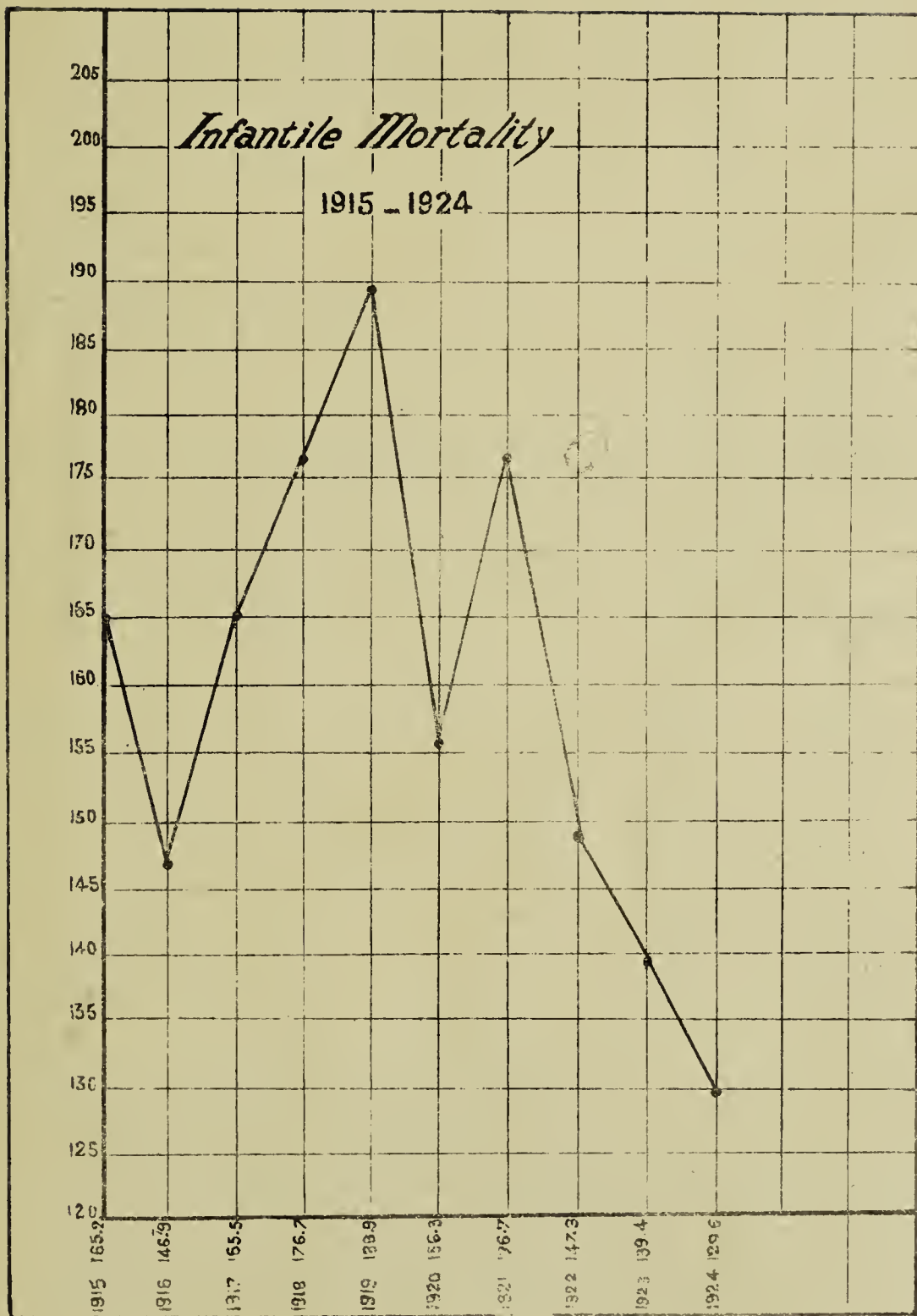
The annexed graph shows the variations in the infantile mortality for the decennial period 1915–1924. A steady improvement characterises the period 1921–24, although the figure for 1924 cannot but be considered still heavy.

#### THE DEATHS UNDER 5 YEARS ARE DISTRIBUTED AS UNDER

|                                    | Males | Females | Total |
|------------------------------------|-------|---------|-------|
| Under 1 year - - - - -             | 1,099 | 901     | 2,000 |
| 1 year and under 2 years - - - - - | 216   | 212     | 428   |
| 2 years „ 3 „ - - - - -            | 182   | 187     | 369   |
| 3 years „ 4 „ - - - - -            | 123   | 128     | 251   |
| 4 years „ 5 „ - - - - -            | 64    | 67      | 131   |
| Total under 5 years - - - - -      | 1,684 | 1,495   | 3,179 |

(\*) This is the number of deaths due to plague registered in 1924 at the Civil Status Offices. Of the 161 plague cases notified during 1924, 144 died within the year.











The causes of those deaths are as follows:—

| Causes of death   |   |   |   |   |   |   |   |   |   | Under 1 year | 1 to under 5 years |
|---|---|---|---|---|---|---|---|---|---|--------------|--------------------|
| General diseases  | - | - | - | - | - | - | - | - | - | 339          | 566                |
| Diseases of the nervous system and organs of the special senses | - | - | - | - | - | - | - | - | - | 46           | 58                 |
| Diseases of the circulatory system                              | - | - | - | - | - | - | - | - | - | 6            | 2                  |
| „ „ respiratory system  | - | - | - | - | - | - | - | - | - | 316          | 264                |
| „ „ digestive system  | - | - | - | - | - | - | - | - | - | 184          | 206                |
| Non venereal diseases of the genito-urinary system and annexa   | - | - | - | - | - | - | - | - | - | ...          | 13                 |
| Diseases of the skin and cellular tissue                        | - | - | - | - | - | - | - | - | - | 6            | ...                |
| „ „ bones and organs of locomotion                              | - | - | - | - | - | - | - | - | - | 1            | ...                |
| Malformations   | - | - | - | - | - | - | - | - | - | 4            | ...                |
| Diseases of early infancy                                       | - | - | - | - | - | - | - | - | - | 1,075        | ...                |
| Affections produced by external causes                          | - | - | - | - | - | - | - | - | - | 6            | 17                 |
| Ill-defined causes  | - | - | - | - | - | - | - | - | - | 17           | 53                 |
| All causes  |   |   |   |   |   |   |   |   |   | 2,000        | 1,179              |

Distribution of the deaths due to diseases of early infancy and comparison with 1923 :

| Designation of diseases and accidents    | 1923  | 1924  |
|--|-------|-------|
| Infantile atrophy, debility and marasmus | 979   | 1,035 |
| Premature birth                          | 39    | 23    |
| Icterus neonatorum                       | 2     | 4     |
| Atelectasis                              | 2     | 6     |
| Injuries at birth                        | 2     | 6     |
| Lack of care                             | ...   | 1     |
| Diseases of umbilicus &c.                | 2     | ...   |
|  | 1,026 | 1,075 |

Having regard to the total number of deaths for the year, viz : 10,558, the proportion of deaths under 5 years to total deaths is still high viz : 30.1%. It was 33.3% in 1923 and 29.5% in 1922.

The table hereunder allows an interesting comparison between Infantile Mortality rates of different countries and colonies.

| Country, Town or Colony | Year (*) | Infantile mortality rate | Remarks                         |
|-------------------------|----------|--------------------------|---------------------------------|
| Edinburgh (Scotland)    | 1921     | 96                       |                                 |
| Scotland                | 1919     | 102.0                    |                                 |
| England and Wales       | 1921     | 83                       |                                 |
| Tasmania                | 1921     | 78.4                     |                                 |
| Jamaica                 | 1921     | 270                      |                                 |
| Ceylon                  | 1922     | 240                      | Rate for the 33 principal towns |
| British Guiana          | 1922     | 186                      |                                 |
| Straits Settlements     | 1922     | 195.22                   |                                 |
| Trinidad                | 1923     | 129.                     |                                 |
| Mauritius               | 1924     | 129.6                    |                                 |

The most important causes of Infantile Mortality are, as usual, congenital debility, improper dieting, neglect and premature birth.

Many children at birth are mere weaklings (†) and are doomed to early death owing to the early marriages amongst Indians and child-bearing at immature age, work of expectant mothers in the fields and the usual hardships and privations in the poorer classes. These causes are *per se* sufficient to lead to death of infants during the later months of gestation.

Infantile mortality is in every country usually higher among males than among females, except in the case of whooping cough. This is borne out by the figures for 1924 given above, the ratio being 11 to 9.

The highest mortality in the age period 1 year-under 5 years occurred as usual in the period 1 year-under 2 years, gradually decreasing.

#### STILL-BIRTHS

There is no legal definition of still-birth in Mauritius, either laid down in the Law or Civil Code. As a result of investigations made, it appears that errors occasionally arise in respect of children, born alive and dying a few minutes after, who are declared and registered as still-births.

(\*) The latest figures available locally are here given.

(†) The average weight of children at birth appears to be 2 kilogrammes in Mauritius.



The number of still-births registered during 1924 is as under, showing a slight increase :—

| Districts                | MALES |      | FEMALES |      | TOTAL |       |
|--------------------------|-------|------|---------|------|-------|-------|
|                          | 1923  | 1924 | 1923    | 1924 | 1923  | 1924  |
| Port Louis - - -         | 101   | 97   | 75      | 62   | 176   | 159   |
| Pamplemousses - - -      | 58    | 88   | 71      | 69   | 129   | 157   |
| Rivière du Rempart - - - | 65    | 95   | 63      | 66   | 128   | 161   |
| Flacq - - -              | 129   | 137  | 101     | 108  | 230   | 245   |
| Grand Port - - -         | 121   | 142  | 110     | 121  | 231   | 263   |
| Savanne - - -            | 71    | 85   | 56      | 69   | 127   | 154   |
| Plaines Wilhems - - -    | 185   | 129  | 141     | 110  | 326   | 239   |
| Moka - - -               | 82    | 102  | 79      | 73   | 161   | 175   |
| Black River - - -        | 24    | 37   | 25      | 18   | 49    | 55    |
| Total - - -              | 836   | 912  | 721     | 696  | 1,557 | 1,608 |

It is equivalent to 104.2 o/oo of live births for the same period against 112.2 in 1923 and 120.3 in 1922.

The still-births are distributed as follows, for the two populations :

|                          | Males | Females | Total |
|--------------------------|-------|---------|-------|
| General Population - - - | 175   | 153     | 328   |
| Indian - - -             | 737   | 543     | 1,280 |
| Total                    | 912   | 696     | 1,608 |

II.—Meteorological Statistics.

The table hereunder summarises the meteorological observations made at the Royal Alfred Observatory,\* which offer interest from the public health point of view.

RESULT OF DAILY METEOROLOGICAL OBSERVATIONS MADE DURING 1924

| Months        | Temperature of the Air |         |         |                     |          |          | Rainfall                  |  | Wind              |  |  |
|---------------|------------------------|---------|---------|---------------------|----------|----------|---------------------------|--|-------------------|--|--|
|               | Minimum on grass       | Maximum | Minimum | Highest daily range | Mean     |          | Amount recorded (Millim.) | Mean degree of humidity (Saturation = 100) | Direction (Mean†) | Observed velocity (Mean) (Metres per second) | Duration of bright sunshine (Mean) (Hours) |
|               |                        |         |         |                     | Day      | Night    |                           |  |                   |  |  |
| January ...   | 14.9° C                | 32.7° C | 17.0° C | 13.0° C             | 27.22° C | 23.43° C | 314.2                     | 76.3                                       | 65.8°             | 3.75   | 7.16                                       |
| February ...  | 17.6                   | 30.9    | 20.6    | 8.3                 | 27.26    | 24.34    | 114.5                     | 79.0                                       | 61.4              | 3.69   | 7.33                                       |
| March ...     | 14.5                   | 29.6    | 19.1    | 8.8                 | 26.32    | 23.37    | 272.3                     | 79.8                                       | 69.6              | 3.90   | 7.45                                       |
| April ...     | 11.5                   | 29.4    | 16.0    | 11.0                | 25.52    | 22.60    | 78.8                      | 79.2                                       | 53.3              | 3.41   | 7.04                                       |
| May ...       | 10.7                   | 27.1    | 15.9    | 9.5                 | 23.84    | 21.32    | 94.0                      | 80.8                                       | 57.8              | 3.70   | 5.67                                       |
| June ...      | 10.4                   | 25.0    | 15.9    | 8.1                 | 21.97    | 19.12    | 37.2                      | 77.8                                       | 68.2              | 3.55   | 7.04                                       |
| July ...      | 7.3                    | 25.4    | 14.6    | 9.9                 | 21.78    | 18.90    | 64.7                      | 78.1                                       | 68.6              | 3.64   | 7.21                                       |
| August ...    | 9.6                    | 25.7    | 14.0    | 10.4                | 21.71    | 18.85    | 109.4                     | 78.3                                       | 64.8              | 3.75   | 6.61                                       |
| September ... | 7.2                    | 26.9    | 12.1    | 12.8                | 22.17    | 18.20    | 27.2                      | 69.9                                       | 64.5              | 3.62   | 7.91                                       |
| October ...   | 6.4                    | 27.4    | 12.9    | 13.0                | 23.09    | 18.40    | 82.1                      | 70.3                                       | 60.7              | 2.99   | 6.83                                       |
| November ...  | 11.7                   | 30.2    | 14.3    | 12.3                | 25.70    | 20.49    | 36.3                      | 71.6                                       | 70.7              | 3.07   | 9.40                                       |
| December ...  | 15.1                   | 32.4    | 17.8    | 12.8                | 27.18    | 22.51    | 180.6                     | 73.6                                       | 104.5             | 2.51   | 7.27                                       |

GENERAL WEATHER CONDITIONS

January.—The temperature was generally below normal and rainfall above. There was a cyclone formed between December 29th, 1923 and January 5th, 1924, the centre of which passed in the close vicinity of the island.

February.—From the 17th to the 20th a cyclone passed North East of the island. The temperature was steady; it was generally above normal up to the 20th and kept below normal after the passage of the cyclone. The rainfall was below normal in the northern districts and above elsewhere. Relative humidity kept below normal during and after the passage of the cyclone.

March.—The temperature was steady and generally about normal; the rainfall was generally above normal. Relative humidity was generally below normal from the 1st to the 21st but variable; it was above normal for the remainder of the month.

April.—The temperature and relative humidity kept normal during the first part of the month, then a steady excess in both was recorded, with a subsequent sharp fall from the 22nd, fall which prevailed to the end of the month. The rainfall was generally below normal.

(\*) A. Walter, F.R.A.S. Director.  
(†) South = 0°; East = 90°; North = 180°; West = 270°.



*May.*—The temperature and humidity were variable—low at the beginning and end of the month with a rise in the middle. The period 14th—20th was a very wet one and the humidity kept in excess until the 27th. The rainfall was slightly in excess of normal generally.

*June.*—The temperature, in the mean, was normal; the humidity variable, 15% above normal in the mean and the rainfall below normal generally.

*July.*—The temperature was generally above normal; the relative humidity much above normal and persistently above during the first 15 days; the rainfall generally above normal.

*August.*—The temperature and humidity were high; the rainfall generally above normal.

*September.*—The temperature and humidity were below normal in the mean; the rainfall below normal generally.

*October.*—The temperature was generally below and the rainfall generally above normal. The meteorological conditions during the month of October were abnormal in several respects, apparently due to the establishment of the equatorial calm belt over Mauritius at an unusually early epoch of the year.

*November.*—The variations were generally slight; the temperature and rainfall were below and the humidity above normal.

*December.*—The unusual stability in all elements observed in November continued to prevail. The temperature was slightly below normal in the mean; the rainfall generally above. The relative humidity was practically normal until the 25th and was afterwards much above normal, consequent on heavy rains.

### III.—Midwifery and Child Welfare.

(I) It may be said that steps have been taken to reduce infantile mortality in Mauritius since the creation of the de Chazal Fund in 1916. The origin of that Fund is as follows: Dr. E. L. de Chazal, now Superintendent, Victoria Hospital, in 1916 generously presented the Mauritius Government the sum of Rs. 100,000 with the request that it should be invested and the resulting income devoted to a scheme of Maternity and Child Welfare.

The measures taken at the outset consisted chiefly in the proper and regular training of Midwives. From 1918, the year in which the first Midwives trained under the de Chazal Scheme qualified, to the 31st December 1924, over 43 Midwives have been granted a certificate after successful training at the Civil, Barkly Asylum(\*) and Victoria hospitals (save a few who were trained in other public hospitals), or an average of more than 6 yearly.

Appendix X gives the result of examinations held in 1924 for the certificate of "Midwife."

From July 1923 Government provides yearly a sum of Rs. 5,000 for the training of midwives. That vote has allowed the admission of a much larger number of pupil midwives yearly than the fixed number of 10 which the revenue from the de Chazal Fund permitted beforehand.

(II) The services comprised under the term "Child Welfare work are: (A) Crèches, (B) Qualified Midwives, (C) Health Visitors.

#### (A)—CRECHES

Crèches in Mauritius are of two kinds:—

(i) Crèches giving admission to infants deprived of good food, proper care and cleanliness.

Two such Crèches exist: the Bon Secours Convent Crèche and the St. Louis Crèche, both in the town of Port Louis.

The Bon Secours Convent Crèche is not maintained by Government. 45 children were dealt with there in 1924. The number of beds is 12. Three children died during 1924 from Dentition (1) and Enteritis (2). The St. Louis Crèche, started in 1916, is maintained partly on a subsidy from Poor Law (Government) funds and partly on a grant from the de Chazal Fund. It is managed by Sisters of Mercy under the direct supervision of the Immigration and Poor Law Department and receives medical attendance from the Civil Hospital Medical Staff on whose grounds the Crèche is situated. The number of children dealt with at that centre in 1924 is 71. The number of beds is 26. 12 children died during the year from Debility (6), Gastro Enteritis (2), Enteritis (1), Abscess (1) and Pneumonia (2).

(ii) Crèches giving admission to children as daily inmates, while their mothers are at work. Two such crèches exist; the Riche-en-Eau Sugar Estate Crèche in the district of Grand Port and the Immigration and Poor Law Department Laundry Crèche in Port Louis. The Riche-en-Eau Sugar Estate Crèche was inaugurated a few years ago by Mr. R. de Rochecouste, principal owner of the estate. It is maintained in a high standard of efficiency by the Estate Authorities and is under the charge of Sisters of Mercy. 161 children were dealt with at that centre in 1924. If the public-spirited action of Mr. R. de Rochecouste could be followed on the larger estates, inestimable advantages would be derived both by the estates themselves and the community at large.

The Immigration and Poor Law Department laundry crèche started in 1922, is attended daily by a small number of children (averaging 5) whose mothers do laundry work at the Immigration laundry, where the washing of linen for several public hospitals is done.

(\*) Closed on the opening of Victoria Hospital in July 1922.



## (B)—QUALIFIED MIDWIVES FOR CASES OF NORMAL LABOUR

As part of the de Chazal Scheme, qualified Midwives have since 1918 been placed on sugar estates in various districts. They attend to midwifery cases on the estates and in their vicinity. They are paid a fixed salary by the month half by the estate or estates on which they are placed and half by the de Chazal Fund.

On the 31st December 1924, 10 Midwives were placed on 12 sugar estates situated in 5 districts. A few other qualified midwives are available for work on application. It is proposed to appoint as many qualified midwives as may be necessary for gratuitous attendance on the poor in every district and township. A start has actually been made in Curepipe and Beau Bassin-Rose Hill by the appointment of 2 midwives early in 1924. They are to be paid fees by Government for every pauper case attended, and Rs. 1,500 have been provided on the Estimates of this Department for 1924-25 on that account.

Unfortunately the object of the scheme has been hitherto defeated by the unwillingness of the lower classes to have recourse to the Government midwives though their services are given gratuitously.

The principal reasons for this prejudice are that the unqualified "sages-femmes" accept for a meagre remuneration to perform in addition to the midwifery duties, the washing of linen for the period during which the mother is confined to bed and also that modern hygienic principles and hygienic principles at all are not believed in by the large mass of the lower classes.

Hence, until the education of the population has been achieved in that respect by persuasion and propaganda, and specially until the number of qualified midwives available is large enough to cope with every midwifery case, there can be no question of passing legislation prohibiting the practice of Midwifery by unqualified women, without causing grave hardships to the lower classes of the population.

No effort is spared with a view to realising these conditions in the immediate future, when only such of the unqualified women now practising as midwives who will submit themselves to training and who shall show aptitude, will be authorised to practise.

Notices calling all persons practising as midwives to make themselves known were published during the year. The measure has disclosed the following numbers for the various districts.

| District                     | Number of unqualified Midwives |
|------------------------------|--------------------------------|
| Port Louis - - - - -         | 58                             |
| Pamplemousses - - - - -      | 68                             |
| Rivière du Rempart - - - - - | 46                             |
| Flacq - - - - -              | 131                            |
| Grand Port - - - - -         | 65                             |
| Savanne - - - - -            | 47                             |
| Black River - - - - -        | 19                             |
| Plaines Wilhems - - - - -    | 23                             |
| Moka - - - - -               | 61                             |
| Whole Colony - - - - -       | 518                            |

It may be mentioned that several persons actually practising as midwives have probably failed to have their names recorded. It is considered that about 85% of these midwives are utterly unqualified and may become dangerous, circumstances permitting. Arrangements have been made to have them examined by small batches by a Medical Board as to their fitness to practise as midwives.

Those practising in Plaines Wilhems were reported by the Board to be, as a class, not fit for the necessary training.

## (C)—HEALTH VISITORS.

The scheme under which Health Visitors were originally intended to work comprises the appointment of a Lady-Doctor. No decision has yet been taken on the subject.

Two Mauritian trained Nurses are approved to undergo special training (at Government expense), in South Africa, as Health Visitors.

One has actually sailed early in 1925 and the other, on selection and approval, in the near future, will follow the lead.

The Health visitors are to be maintained by Government. They will be assigned defined areas within which they will make domiciliary visits, educate young mothers in the care and upbringing of infants, inculcate the elementary principles of hygiene and infant feeding as well as advisory precautions to be taken by expectant mothers; in addition to performing the ordinary duties in maternity cases.

It is expected that after the start made in providing for trained Health Visitors, the Midwifery and Child Welfare Scheme outlined on several occasions already will be fully adopted.



When the average yearly number of.

- (a) women dying in child-bearing state ;
- (b) infants dying under 1 year, and
- (c) still births

is considered, one is forcibly led to conclude that it is essential that Government should carry on fully a Midwifery and Child Welfare Scheme.

With this end in view there remain two primordial requirements to be satisfied :—

- (I) *the appointment of a lady doctor with wide experience in Midwifery and Child Welfare ;*
- (II) *the Midwifery and Child Welfare Society, for which Government provides an annual grant, to be revived and placed on a proper footing.*

In the course of its development, the scheme should be given gradually whatever extension the circumstances shall necessitate *e.g.* the institution of baby clinics.

(III) *Child Care and Protection*.—There exists no special hospital for children. Periodical medical examination of children attending the primary schools is done, but it is not compulsory. The laws in force in the Colony provide for the admission of destitute orphans and children to Government or private institutions until they have attained the age of 12 and 14 as boys and girls respectively. As there are at present no Government institutions available to receive them, they are directed to convents and orphanages at the cost of Government. The latter (private institutions) also receive directly orphans and destitute children. Deserted and widowed mothers having children to support are relieved by the Poor Law Department when they have no liable relatives or responsible employé bound by law to support them.

Neglect of and offence against children are punished by imprisonment or fine. The Poor Law Office provides protection and relief to any such children and recovers the expenses so incurred from the responsible parties.

(IV) *Baby Show*.—On the suggestion and under the distinguished patronage of His Excellency Sir Hesketh Bell, then Governor of Mauritius, a Baby Show was held in the hall of the Union Catholique, in Port Louis on the 1st August, 1924.

The show was restricted to infants under 1 year born in Port Louis and whose parents were earning wages not exceeding an average of Rs. 60 a month. 5 substantial money prizes were distributed to parents of the best healthy-looking babies. The show brought into line over 150 competitors, a large proportion of whom were really fine infants. It was a double success, firstly in that it focussed the public attention, undoubtedly not without far-reaching effects, on the necessity of working, on good methods, for the welfare of children and secondly in that it stimulated interest towards everything relating to Public Health generally.

(v) *The “Goutte de Lait” (Milk-drop) Scheme*.—A scheme is being devised for the gratuitous supply of good milk at certain centres to pauper infants.

Funds collected by the “Société Médicale” of Mauritius for perpetuating the memory of Pasteur, have been placed at the disposal of Government to be employed as stated above.

(vi) *Book on Hygiene of Infants*.—During the year Government defrayed the cost of the publication of “an admirable treatise which is sure to be of much value in reducing infantile mortality,” entitled *Guide Élémentaire d’Hygiène infantile*, by Drs. E. L. de Chazal and F. A. Rouget O.B.E. Superintendents of Victoria and Civil Hospitals.

The book, written in French, and primarily for the use of midwives and Mauritian mothers, was offered for sale at the nominal price of one Rupee and reached two editions in 1924.

#### IV.—Prevalence of Sickness and Recurrence of Particular Diseases.

The following table shows the number of cases treated in the public hospitals and at the dispensaries for the last five years :—

|                       | 1920   | 1921   | 1922    | 1923   | 1924   | Average |
|-----------------------|--------|--------|---------|--------|--------|---------|
| Hospital Admissions - | 22,132 | 19,127 | 19,337  | 17,069 | 18,663 | 19,266  |
| Dispensary cases -    | 65,302 | 60,671 | 85,638  | 53,225 | 52,641 | 63,495  |
| Outdoor cases -       | 4,225  | 5,066  | 6,491   | 12,032 | 15,570 | 8,677   |
| Total -               | 91,659 | 84,864 | 111,466 | 82,326 | 86,874 | 91,438  |

These figures indicate an increase as regards hospital admissions and outdoor cases. The dispensary cases show a decrease of less than 600. The total number of cases is above that for 1923 and less than the average for the five-year period 1920–24.

#### NOTIFIABLE CONTAGIOUS AND INFECTIOUS DISEASES

Ordinance No. 47 of 1898 provides for the compulsory notification of Plague, Cholera, Choleraic Diarrhoea, Small-pox, Yellow fever, Diphtheria and Membranous Croup, Measles, Scarlatina or Scarlet fever, and the fevers known by any of the following names: Typhoid or Enteric, Typhus, Relapsing or Continued and Puerperal; and traumatic Erysipelas and of any other disease that may be added thereto by regulations.

By regulations published under G. N. No. 65 of 15.4.08, cerebrospinal meningitis has been made notifiable; so also the diseases known as “Varicella” or Chicken Pox by regulations published under G. N. No. 46 of 17.3.13 and Spanish Influenza by regulations published under G. N. No. 153 of 11.6.20.



The appended tables show the incidence of the various notifiable diseases, exclusive of plague, firstly according to the districts or sanitary sections, and secondly monthly.

I.—NOTIFIABLE INFECTIOUS DISEASES (EXCLUSIVE OF PLAGUE)—1924.

| Diseases                                      | Port Louis | Pamplemousses | Riv. du Rempart | Flacq | Grand Port | Savanne | Moka | Black River | B. Bassin-Rose Hill | 4 Bornes | Phoenix-Vacoas | Curepipe | Total |
|---|------------|---------------|-----------------|-------|------------|---------|------|-------------|---------------------|----------|----------------|----------|-------|
| Typhoid fever - -                             | 11         | 3             | 5               | 11    | 11         | 16      | 18   | 1           | 11                  | 4        | 9              | 7        | 107   |
| Continued fever - -                           | ...        | ...           | ...             | ...   | 5          | ...     | ...  | ...         | ...                 | ...      | ...            | 2        | 7     |
| Puerperal fever and puerperal septicaemia - - | 6          | 1             | 1               | 3     | ...        | 2       | ...  | ...         | 1                   | 1        | 1              | 1        | 17    |
| Erysipelas - -                                | ...        | 1             | 1               | 5     | 1          | 3       | 1    | 1           | ...                 | ...      | 1              | ...      | 14    |
| Diphtheria - -                                | 2          | 1             | ...             | 4     | 3          | 2       | 13   | ...         | 8                   | 13       | 5              | 53       | 104   |
| Cerebrospinal meningitis - -                  | ...        | 1             | ...             | ...   | ...        | 1       | ...  | ...         | ...                 | ...      | ...            | ...      | 2     |
| Measles - -                                   | ...        | ...           | 1               | ...   | ...        | ...     | 2    | ...         | ...                 | 1        | ...            | 3        | 7     |
| Chicken Pox - -                               | 1          | ...           | ...             | ...   | ...        | ...     | ...  | ...         | ...                 | ...      | ...            | ...      | 1     |
| Total - -                                     | 20         | 7             | 8               | 23    | 20         | 24      | 34   | 2           | 20                  | 19       | 16             | 66       | 259   |

II.—NOTIFIABLE INFECTIOUS DISEASES (EXCLUSIVE OF PLAGUE)—1924.

| Diseases                                      | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|---|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|-------|
| Typhoid fever - -                             | 9       | 8        | 17    | 10    | 7   | 9    | 3    | 3      | 7         | 13      | 12       | 9        | 107   |
| Continued fever - -                           | ...     | ...      | ...   | ...   | ... | ...  | ...  | 1      | 4         | 2       | ...      | ...      | 7     |
| Puerperal fever and puerperal septicaemia - - | 1       | 3        | ...   | ...   | ... | 2    | 2    | 2      | 1         | 1       | 4        | 1        | 17    |
| Erysipelas - -                                | 1       | ...      | ...   | 1     | 2   | 4    | 3    | ...    | ...       | 1       | 1        | 1        | 14    |
| Diphtheria - -                                | 3       | ...      | 5     | 3     | 9   | 4    | 3    | 1      | 6         | 18      | 42       | 10       | 104   |
| Cerebrospinal meningitis - -                  | ...     | ...      | ...   | ...   | ... | ...  | 1    | ...    | ...       | ...     | 1        | ...      | 2     |
| Measles - -                                   | 5       | 1        | ...   | ...   | ... | ...  | 1    | ...    | ...       | ...     | ...      | ...      | 7     |
| Chicken Pox - -                               | ...     | ...      | ...   | ...   | ... | ...  | ...  | ...    | ...       | ...     | 1        | ...      | 1     |
| Total - -                                     | 19      | 12       | 22    | 14    | 18  | 19   | 13   | 7      | 18        | 35      | 61       | 21       | 259   |

The total number of notifications received by the Department, exclusive of Plague, during the year was 259, compared with a total of 258 in 1923.

PLAGUE

That plague is an endemic disease in Mauritius is easily shown by going over the available statistics since 1899, the year when the disease was first detected in the Colony.

The following statement shows the number of cases, deaths and percentage of deaths since the outbreak of plague in the Colony:—

| Years | Cases | Deaths | Percentage of deaths | Years | Cases                         | Deaths | Percentage of deaths |
|-------|-------|--------|----------------------|-------|-------------------------------|--------|----------------------|
| 1899  | 1,416 | 1,117  | 78.9                 | 1912  | 656                           | 541    | 82.5                 |
| 1900  | 796   | 593    | 74.5                 | 1913  | 313                           | 261    | 83.4                 |
| 1901  | 1,093 | 805    | 73.7                 | 1914  | 125                           | 111    | 88.8                 |
| 1902  | 506   | 384    | 76.3                 | 1915  | 33                            | 25     | 75.8                 |
| 1903  | 1,395 | 1,035  | 74.2                 | 1916  | 22                            | 15     | 68.2                 |
| 1904  | 568   | 449    | 79.0                 | 1917  | 8                             | 7      | 87.5                 |
| 1905  | 308   | 251    | 81.5                 | 1918  | No case notified or detected. |        |                      |
| 1906  | 434   | 344    | 79.3                 | 1919  |                               |        |                      |
| 1907  | 224   | 178    | 79.5                 | 1920  |                               |        |                      |
| 1908  | 167   | 137    | 82.0                 | 1921  | 375                           | 297    | 79.2                 |
| 1909  | 457   | 333    | 72.9                 | 1922  | 98                            | 75     | 76.5                 |
| 1910  | 731   | 553    | 75.6                 | 1923  | 139                           | 118    | 84.8                 |
| 1911  | 173   | 131    | 75.7                 | 1924  | 161                           | 144    | 89.4                 |

Plague deaths (registered at the Civil Status offices during the year) represent 1.38% of total deaths in 1924 against 1.1% in 1923.

It will be seen that the percentage of deaths in 1924 is the highest on record, the next highest being 88.8 in 1914.



There is however no cause for alarm when it is known that 88 out of the 161 cases registered in 1924, were found post-mortem while the deaths were being controlled by officers of this department prior to registration. Only 63 cases therefore received treatment, if the 10 cases which were *in extremis* when notification was received are also deducted. Of these, 16 recovered (1 being still under treatment on the 31st December, 1924) giving a percentage of 73 deaths (on the cases notified before death and before being in extremis.)

The cases are distributed as under, according to the type of the disease :—

| District             |     |     | Bubonic         |       |      | Septicæmic |      | Pneumonic |      | Total           |       |      |       |
|----------------------|-----|-----|-----------------|-------|------|------------|------|-----------|------|-----------------|-------|------|-------|
|                      |     |     | Under treatment | Cured | Died | Cured      | Died | Cured     | Died | Under treatment | Cured | Died | Total |
| Port Louis ...       | ... | ... | 1               | 8     | 49   | ...        | 36   | ...       | 7    | 1               | 8     | 92   | 101   |
| Pamplemousses        | ... | ... | ...             | ...   | 1    | ...        | ...  | ...       | ...  | ...             | ...   | 1    | 1     |
| Flacq ...            | ... | ... | ...             | 1     | 3    | ...        | 1    | ...       | ...  | ...             | 1     | 4    | 5     |
| Plaines Wilhems      | ... | ... | ...             | 7     | 25   | ...        | 20   | ...       | 2    | ...             | 7     | 47   | 54    |
| Total                |     |     | 1               | 16    | 78   | ...        | 57   | ...       | 9    | 1               | 16    | 144  | 161   |
| Percentage of deaths |     |     | ...             | 82.1  |      | 100        |      | 100       |      | 89.4            |       |      |       |

#### TREATMENT OF PLAGUE

The methods of treatment employed vary according to the type of case.

They may be classed as :—

*Specific* i.e. treatment by the intravenous administration of anti-plague serum, and

*General*, the administration of stimulants and other appropriate remedies e.g. electrargol.

It has been arranged, on the suggestion of Dr. A. Balfour, to try mercurio-chrome, 220 soluble, in suitable cases next year.

Arrangements have similarly been made for the treatment of cases by intravenous injections of Neo-Kharsivan which, tried by Dr. C. H. Marshall, Senior Medical Officer, Uganda and R.S. Achhru Ram, Assistant Surgeon, is stated to have given most striking results.

The tables appended show : (a) the number of plague cases and deaths, monthly for each district, (b) the classification of the cases according to place of treatment, (c) the age incidence, (d) the sex incidence and (e) the race incidence of the disease.

#### STATEMENT SHOWING THE NUMBER OF PLAGUE CASES AND DEATHS IN THE COLONY DURING THE YEAR 1924.

| Months               |     |     | Port Louis      |       |      |       | Pamplemousses |      |       | Flacq |      |       | Plaines Wilhems |      |       | Total           |       |      |       |
|----------------------|-----|-----|-----------------|-------|------|-------|---------------|------|-------|-------|------|-------|-----------------|------|-------|-----------------|-------|------|-------|
|                      |     |     | Under treatment | Cured | Died | Total | Cured         | Died | Total | Cured | Died | Total | Cured           | Died | Total | Under treatment | Cured | Died | Total |
| January ...          | ... | ... | ...             | ...   | ...  | ...   | ...           | ...  | ...   | ...   | ...  | ...   | 2               | 5    | 7     | ...             | 2     | 5    | 7     |
| February ...         | ... | ... | ...             | ...   | 3    | 3     | ...           | ...  | ...   | ...   | ...  | ...   | 1               | 10   | 11    | ...             | 1     | 13   | 14    |
| March ...            | ... | ... | ...             | ...   | 1    | 1     | ...           | ...  | ...   | ...   | ...  | ...   | ...             | ...  | ...   | ...             | ...   | 1    | 1     |
| April ...            | ... | ... | ...             | ...   | 2    | 2     | ...           | ...  | ...   | ...   | ...  | ...   | ...             | ...  | ...   | ...             | ...   | 2    | 2     |
| May ...              | ... | ... | ...             | 1     | 2    | 3     | ...           | ...  | ...   | ...   | ...  | ...   | ...             | ...  | ...   | ...             | 1     | 2    | 3     |
| June ...             | ... | ... | ...             | ...   | 2    | 2     | ...           | ...  | ...   | ...   | ...  | ...   | ...             | 1    | 1     | ...             | ...   | 3    | 5     |
| July ...             | ... | ... | ...             | ...   | 4    | 4     | ...           | ...  | ...   | ...   | ...  | ...   | ...             | 1    | 1     | ...             | ...   | 5    | 5     |
| August ...           | ... | ... | ...             | ...   | 2    | 2     | ...           | ...  | ...   | ...   | ...  | ...   | ...             | 1    | 1     | ...             | ...   | 3    | 3     |
| September ...        | ... | ... | ...             | ...   | 5    | 5     | ...           | ...  | ...   | ...   | ...  | ...   | 1               | 4    | 5     | ...             | 1     | 9    | 10    |
| October ...          | ... | ... | ...             | 1     | 12   | 13    | ...           | ...  | ...   | ...   | ...  | ...   | ...             | 13   | 13    | ...             | 1     | 25   | 26    |
| November ...         | ... | ... | ...             | 2     | 30   | 32    | ...           | ...  | ...   | ...   | ...  | ...   | 2               | 10   | 12    | ...             | 4     | 40   | 44    |
| December ...         | ... | ... | 1               | 4     | 29   | 34    | ...           | 1    | 1     | 1     | 4    | 5     | 1               | 2    | 3     | 1               | 6     | 36   | 43    |
| Total                |     |     | 1               | 8     | 92   | 101   | ...           | 1    | 1     | 1     | 4    | 5     | 7               | 47   | 54    | 1               | 16    | 144  | 161   |
| Percentage of deaths |     |     | 91.1            |       |      |       | 100           |      |       | 80    |      |       | 87              |      |       | 89.4            |       |      |       |

No case of plague was notified in the districts of Rivière du Rempart, Grand Port, Savanne, Black River, and Moka.



CLASSIFICATION OF CASES ACCORDING TO PLACE OF TREATMENT.

|                            |   |   |   |   |   | Under<br>treatment | Cured | Died | Total |
|----------------------------|---|---|---|---|---|--------------------|-------|------|-------|
| Seen post mortem           | - | - | - | - | - | ...                | ...   | 88   | 88    |
| „ <i>in extremis</i>       | - | - | - | - | - | ...                | ...   | 10   | 10    |
| Treated at home            | - | - | - | - | - | ...                | 2     | 4    | 6     |
| „ Montagne Longue Hospital | - | - | - | - | - | ...                | ...   | 1    | 1     |
| „ Candos Hospital          | - | - | - | - | - | ...                | ...   | 2    | 2     |
| „ Flacq Hospital           | - | - | - | - | - | ...                | 1     | 4    | 5     |
| „ Civil Hospital           | - | - | - | - | - | ...                | ...   | 3    | 3     |
| „ Chinese Hospital         | - | - | - | - | - | 1                  | 1     | 4    | 6     |
| „ Grand River Lazaret      | - | - | - | - | - | ...                | 12    | 28   | 40    |
| Total                      |   |   |   |   |   | 1                  | 16    | 144  | 161   |

AGE INCIDENCE.

| Age Periods       |   |   |   |   |   | Under<br>treatment | Cured | Died | Total |
|-------------------|---|---|---|---|---|--------------------|-------|------|-------|
| Under 1 year      | - | - | - | - | - | ...                | ...   | 3    | 3     |
| From 1 to 5 years | - | - | - | - | - | ...                | ...   | 8    | 8     |
| „ 6 „ 10          | „ | - | - | - | - | ...                | 3     | 21   | 24    |
| „ 11 „ 20         | „ | - | - | - | - | ...                | 6     | 39   | 45    |
| „ 21 „ 30         | „ | - | - | - | - | 1                  | 3     | 22   | 26    |
| „ 31 „ 40         | „ | - | - | - | - | ...                | 4     | 26   | 30    |
| „ 41 „ 50         | „ | - | - | - | - | ...                | ...   | 10   | 10    |
| „ 51 „ 60         | „ | - | - | - | - | ...                | ...   | 11   | 11    |
| „ 61 „ 70         | „ | - | - | - | - | ...                | ...   | 3    | 3     |
| „ 71 „ 80         | „ | - | - | - | - | ...                | ...   | 1    | 1     |
| Above 80          | - | - | - | - | - | ...                | ...   | ...  | ...   |
| Total             |   |   |   |   |   | 1                  | 16    | 144  | 161   |

SEX INCIDENCE

| Sex     |   |   |   |   |   | Under<br>treatment | Cured | Died | Total |
|---------|---|---|---|---|---|--------------------|-------|------|-------|
| Males   | - | - | - | - | - | 1                  | 11    | 91   | 103   |
| Females | - | - | - | - | - | ...                | 5     | 53   | 58    |
| Total   |   |   |   |   |   | 1                  | 16    | 144  | 161   |

RACE INCIDENCE

| Race       |   |   |   |   |   | Under<br>treatment | Cured | Died | Total |
|------------|---|---|---|---|---|--------------------|-------|------|-------|
| Mauritians | - | - | - | - | - | ...                | 4     | 54   | 58    |
| Indians    | - | - | - | - | - | ...                | 9     | 79   | 88    |
| Chinese    | - | - | - | - | - | 1                  | 3     | 11   | 15    |
| Total      |   |   |   |   |   | 1                  | 16    | 144  | 161   |

8,006 persons were inoculated with anti-plague vaccine in Port Louis and 4,982 in Plaines Wilhems.



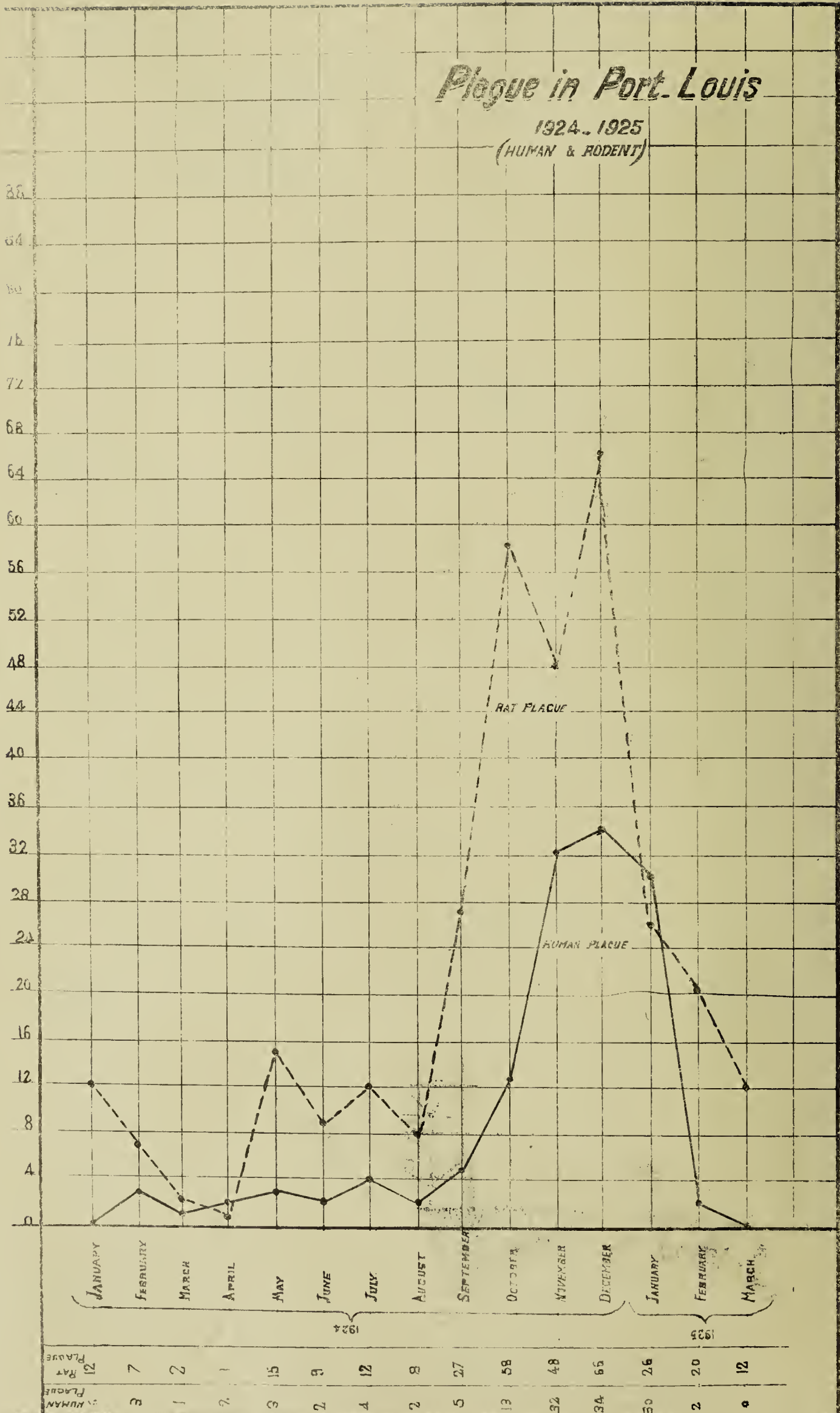




# *Plague in Port Louis*

1924-1925  
(HUMAN & RODENT)

ACTUAL NUMBER REGISTERED





The tables hereunder show: (a) the number of rodents caught and (b) the number examined.

## DESTRUCTION OF RODENTS.

Number of rodents caught in Port Louis and Country Districts.

|                 |   |   |   |   |                    |
|-----------------|---|---|---|---|--------------------|
| Port Louis      | - | - | - | - | 51,308             |
| Pamplemousses   | - | - | - | - | 1                  |
| Plaines Wilhems | - | - | - | - | 21,844             |
| Grand Port      | - | - | - | - | 1,069              |
| Savanne         | - | - | - | - | 2,107              |
| Moka            | - | - | - | - | 1,951              |
| Flacq           | - | - | - | - | 213                |
| Black River     | - | - | - | - | 4,770              |
|                 |   |   |   |   | <hr/> 83,263 <hr/> |

## EXAMINATION

Number of Rodents microscopically examined and the number found plague infected.

|                 | Examined | Plague infected |
|-----------------|----------|-----------------|
| Port Louis      | - 28,001 | 265             |
| Pamplemousses   | - 1      | 1               |
| Plaines Wilhems | 19,472   | 293             |
| Grand Port      | - 1      | ...             |
| Black River     | - 1      | ...             |
| Total           | - 47,476 | 559             |

45 cats were found dead or killed in Port Louis; only 19 of them could be examined and 4 were found plague infected.

The cost of the rat campaign for 1924 works out at 58 cents per rat caught.

Plague is usually virulent in Mauritius in the period extending from the end of August (with its maximum in November—December) to January—February. The incidence of plague in 1924 has further confirmed that observation.

In the district of Port Louis, with the exception of the month of January, cases of human plague were recorded in small numbers every month, up to August. The disease then began to assume some virulence, and the cases recorded rose to 5 in September, 13 in October, 32 in November and 34 in December.

In the district of Plaines Wilhems, the epidemic of 1923 died out in February 1924, 7 and 11 cases being recorded in January and February respectively. The disease re-appeared in June when one case was detected; it stood again at that number in July and August and rose to 5 in September, 13 in October, 12 in November and falling down to 3 in December, to die out in February 1925.

Rodent plague, the forerunner of human plague, usually precedes outbreaks of the latter on an approximately similar curve e.g. in August 1924, 8 of the rats caught in Port Louis and examined were plague infected and in October 58.

As an illustration of the statements made above, the annexed graph shows concurrently the incidence of plague in men and rats, in Port Louis, during the period January 1924—March 1925.

Two other districts were visited by plague in 1924, Flacq and Pamplemousses, both in the month of December.

In Flacq the outbreak was confined to Grande Retraite hamlet.

Previous to the detection of plague there, two deaths had occurred in rather suspicious circumstances, after 3 to 4 days' illness and had been declared and registered at the Civil Status as due to malaria and dysentery. The patients had not been seen by a medical practitioner.

Five cases were registered in all, 4 of which proved fatal. 4 of the cases were bubonic and 1 septicæmic plague. All the cases were removed to Flacq Hospital before confirmation of the plague diagnosis.

It is believed that contamination took place in Port Louis.

The case recorded in Pamplemousses was that of a male adult. He fell ill in Port Louis, moved to Camp des Embrevades, in Pamplemousses, and was subsequently admitted to Long Mountain Hospital where bubonic plague was diagnosed and where it proved fatal.

The reports of the Medical Officers of Health for Port Louis and Plaines Wilhems and of the Sanitary Warden (North) (Appendices I, II and III) contain special references, with respect to the occurrence of plague in 1924.

Rat-catching and destruction were systematically carried out as a routine measure throughout the year, specially in Port Louis and Plaines Wilhems. Rats caught, killed or found dead are bacteriologically examined daily. Identification of fleas, recently started, has been continued by the Medical Officers of Health for Port Louis and Plaines Wilhems.



The control of deaths occurring in the districts of Port Louis and Plaines Wilhems is strictly performed in view of the possible concealment of plague cases.

The 104 grain-stores situated in the centre of Port Louis were regularly and often fumigated by means of the Clayton apparatus. Coasters are controlled nightly at the harbour in connection with the prevention of rat invasion.

The special measures taken in plague cases are generally as follows :—

- (i) Removal of patient, when possible, to the hospital at Grand River North West in the case of Port Louis and vicinity and to rural district hospitals or lazarets in case of distant places.
- (ii) Inoculation of all contacts with *B. pestis* vaccine and segregation of the contacts, either at home or in the lazaret according to the circumstances.  
Medical supervision during segregation.
- (iii) Carrying out of intensive rat destruction measures in infected and threatened areas.
- (iv) Disinfection of premises and effects of patients and contacts; and fumigation of infected blocks of dwellings.
- (v) Burning of infected huts (when old and in disrepair) or dethatching (when of a better type).

[Intensive rat-destruction and disinfection and fumigation of premises are also carried out in cases where plague-infected rats are found].

Failure to eradicate plague and incomplete success of the anti-rat campaign are attributable to the following causes :—

- (i) Lack of co-operation on the part of the vast majority of the community, due mostly to ignorance, apathy and scepticism.
- (ii) Defective housing conditions.
- (iii) Overcrowding in small, ill-ventilated rooms and insanitary mode of living of the general mass of the population.
- (iv) Non-rat-proof grain stores. In addition to the grain stores proper, every Chinaman's shop is an actual grain store.  
Rice, other grain and gunny bags are stored all over the town in non-rat-proof buildings.

The remedies suggested are :—

- (I) Educational propaganda.

(a) The teaching of hygiene in primary schools and girls' secondary schools which was started several years ago has not shown its beneficial effects fully yet, but it is only gradually that those effects may be expected to be materialized. The teachers should after having personally derived the fullest benefit from the lectures of the public health officer, take at heart the imparting of the elementary principles of hygiene to the schoolboys and girls. At the same time, hygiene should be taught in *all schools and colleges* without exception.

- (b) Cinema films, lectures, illustrated leaflets and posters.

Several cinema films and a complete portable projection (electric power) apparatus have been received. The titles of the films which have already been received are: "Mosquitoes and Malaria," "Swat that fly," "The Rat Menace" and "Ankylostomiasis." The films have been shown free of charge in schools and elsewhere and free open air exhibitions will also be given.

Several leaflets (bulletins) have already been published in English and French and on occasion arising, this procedure will be continued.

(c) It is expected with the complete and efficient training the sanitary staff is now undergoing, that Sanitary Officers will be conscious of and alive to the *educational* mission they are entrusted with towards the community as regards all the aspects of public health.

- (II) and (III) More houses, better houses; better housing conditions and domestic hygiene.

During years it has been constantly necessary to call attention to the unsatisfactory conditions arising from the *scarcity of houses, dilapidated houses, dark and ill-ventilated houses, back to back houses, absence of domestic hygiene*.

Houses are constantly being erected which do not satisfy the minimum health requirements and which should not have been passed as fit for human habitation. The Medical Department has now no word to say, legally, in the erection or re-construction of buildings.

Overcrowding exists in the town of Port Louis, the townships of Plaines Wilhems and many villages and hamlets. The shortage of houses prevents in several cases the execution of repairs and improvements necessary as temporary evacuation is indispensable, and other houses cannot at the same time be obtained.

All over the island, buildings which are on the border line of unfitness for human occupation can be seen inhabited. The law should be amended to give power to expropriate and demolish those dwellings in slum areas which are unfit for human habitation.

The social conditions and housing of the poorer classes in Port Louis have been admirably described by Dr. Balfour in his reports. Housing in Port Louis and its suburbs, in populous towns, villages and hamlets is absolutely wretched. A careful investigation has shown that about 50% of all the dwellings in Port Louis are in a ruinous state. Such breeding places of disease should be removed, then large savings could be effected on the expenditure upon hospitals and dispensaries.



A healthy house is essential. The air space around a house is of more importance than the size of the house itself.

It is impossible to demolish or close houses on a wholesale scale until better and more attractive accommodation may be offered to the dispossessed. The erection of new houses by private enterprise, although generally in progress over recent years, has not relieved the congestion in slum areas to any appreciable extent.

Our policy must aim at prevention in its fullest and most liberal sense. The hospitals have been improved in equipment and staff. Better provisions for medical attendance on the poor have been made and new dispensaries are opened as circumstances require. The Tuberculosis Ward is working and the New Leper Asylum has been opened on the 1st February 1924. It is however essential that the efforts of the public health campaign should be concentrated upon methods and means that will reduce the demands on these institutions.

#### GOVERNMENT HOUSING SCHEME.

The scheme devised by His Excellency Sir Hesketh Bell, G.C.M.G., former Governor of Mauritius, is an example of what can be done in Mauritius towards solving the problem of housing of the working classes.

The Bell Village at Cassis has been further extended throughout the year under review. The result has been that the pleasant and attractive suburb grown up in this area has continued to justify the hopes placed in the scheme.

The construction of this village has provided a mine of information regarding the best type of materials to be employed in such work, which information will be of great value to the Colony in the future.

The locality is healthy and the village experiences almost constantly the beneficent effects of a fresh breeze.

During 1924 the following buildings were completed :—

*Bell Village*.—33 two-roomed cottages ;  
2 lodges of six rooms each.

The population of these “villages” stood as under on the 31st December, 1924 :

|                |     | Adults    | Children  |
|----------------|-----|-----------|-----------|
| Bell Village   | ... | 391       | 212       |
| New Cut Street | ... | 56        | 32        |
|                |     | <hr/> 447 | <hr/> 244 |

The buildings in occupation were as under on the 31st December, 1924 :—

*Bell Village*.—98 two-roomed cottages

22 three

62 rooms in lodges

5 double rooms in brick blocks

[A lodge of 4 double rooms is used as an Institute].

*New Cut Street*.—27 double rooms in the 3 lodges of 12 double rooms each.

(iv) The rat proofing of grain-stores.

The grain-stores now existing in Port Louis could not easily be made rat-proof, if even attempts were possible.

The provision of a rat-proof granary wherein all grain imported should, after fumigation on board the vessel, be stored directly from the steamer or lighters, is still to be approved. It is the only way out of the danger which the wholesale grain stores constitute. It is proposed that the granary should be of sufficient capacity to store three months' supply of grain for the Colony.

Since the latter part of 1923 steps have been taken in Port Louis for the systematic rat-proofing of shops, stores, stables, bakehouses and premises where plague or plague infected rats are found or which are situated in contaminated blocks.

Over 100 premises in Port Louis have thus been rendered rat proof in 1924. Similar measures have been adopted in Plaines Wilhems district and in individual cases all over the island.

#### ENTERIC FEVER.

107 cases of Enteric fever were notified in 1924 against 150 in 1923. The number of cases notified for the past ten years is as under :

| 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 |
|------|------|------|------|------|------|------|------|------|------|
| 188  | 227  | 244  | 169  | 190  | 168  | 288  | 224  | 150  | 107  |

The largest number of cases occurred in the districts of Moka (18), Savanne (16), Flacq (11), Grand Port (11), Port Louis (11), in the town of Beau Bassin-Rose Hill (11), and in Phoenix-Vacoas (9). The months of particular prevalence were March (17), October (13) and November (12). The tables furnished at the beginning of this chapter give fuller details.



47 cases were treated in hospital against 77 in 1923 and 74 in 1922. The case mortality was 17% (8 deaths) against 17% (13 deaths) the previous year and 27% (20 deaths) in 1922. 29 deaths attributed to Enteric Fever were registered in the whole Colony against 44 in 1923.

The Atropine Clinical test in typhoid and para-typhoid fevers, introduced by H. F. Marris in 1916, and mentioned by Dr. A. Balfour in his report on Medical and Sanitary Matters in Mauritius, has been given a trial in suitable cases in the public hospitals in the latter part of the year.

The reports hitherto received show that the test is positive in cases of enteric fever.

It has been mentioned however that the test had been found unreliable after the observations of Friedlander and Mac Cord who in 1918 detected the reaction in 36% of non typhoid cases. In one case at the Civil Hospital the test actually gave a positive reaction although the patient did not suffer from typhoid fever as was evidenced by the clinical progress of the case and by a negative Widal's reaction.

Anti-enteric vaccination is performed generally and prophylactic vaccine is prepared and stocked at the Bacteriological Laboratory, and supplied to medical practitioners and the public on request. The applications made are numerous and it is considered that in only few cases recourse is not now had to this prophylactic measure. Specially prepared anti-typhoid vaccine for oral administration has also recently been introduced but its use is not general yet.

#### DIPHTHERIA.

A wave of diphtheria swept over the districts of Plaines Wilhems (the town of Curepipe being particularly affected) and Moka, reaching its highest points in the months of October, November and December.

Out of 104 total cases notified (against 47 in 1923), 70 were notified in these three months and 92 were relative to the two districts above mentioned. Full details are given in the tables of contagious diseases furnished at the beginning of this chapter.

11 cases were treated in hospital with 2 deaths against 5 cases and one death in 1923. 5 deaths were registered in the whole island, the same number as the previous year. The deaths occurred in cases where treatment was sought for only when the disease was far advanced. The epidemic was confined to the better educated and wealthy section of the community. It proved very contagious but did not show a high mortality.

The various causes of the spread of the disease, as determined by a thorough investigation of all cases, may be summed up as follows :—

- (i) Carriers
- (ii) Missed cases of the disease
- (iii) Delayed notification in several cases
- (iv) Defective or generally absence of isolation—relatives and friends freely visiting patients.
- (v) Favourable meteorological conditions.

Carriers have played a most important part.

During the year two persons after recovery from a first attack were found reinfected within an interval of a few months.

*Patients should not be considered cured until three negative swabbings from the nose and the throat are obtained.*—Elimination of a large proportion of the risks of infection by patients or carriers could only be secured in that way.

Another main cause of contagion is the lack of precaution and the negligence attributable to the confidence justly placed in the serum and the resulting tendency to look on the disease as of no great seriousness.

The careful investigation made has also allowed to establish an interesting chain of connections between several of the cases registered thus proving beyond doubt how the disease has been largely communicated from sick to healthy.

Immediately the chief causes of the epidemic were known, (viz in December) regulations whereby proper isolation and other general measures e.g. the closing of schools to prevent the spread of contagious diseases, are made compulsory, were drafted and published subsequently under Government Notification No. 19 of the 24th January 1925.

During the epidemic steps were taken to obtain swabs from all servants as well as contacts of cases notified, but it is impossible at present to estimate the proportion of persons susceptible to diphtheria.

It is therefore proposed in the near future to test school children with the Schick test, a simple test which distinguishes between persons susceptible and those non-susceptible to diphtheria. This test has not yet been applied in Mauritius.

Persons who do not react to the test are not likely to develop the disease though exposed to infection, those who react may acquire immunity during an epidemic by means of injections of a mixture of diphtheria toxin and anti-toxin.



## SMALL-POX AND VACCINATION.

There has been no small-pox in the island since 1913. A total of 10,944 children were vaccinated during the year by the Public Vaccinators and the results were as under:—

|   |     |     |              |
|---|-----|-----|--------------|
| Successful vaccinations on 1st attendance                     | ... | ... | 10,429       |
| „ „ 2nd and subsequent attendances...                         |     |     | 452          |
|   |     |     | <hr/> 10,881 |
| Unsuccessful „ ... ..   |     |     | 48           |
| Vaccinations in which the result could not be ascertained ... |     |     | 15           |
|   |     |     | <hr/> 10,944 |

The proportion of vaccinated children to total live births is 70.09% for 1924 against 66.1% for 1923.

In some cases vaccinations are privately done, they are not included in the figures above.

The low proportion of vaccinated children to total live births gives an idea of the large number of unvaccinated inhabitants in Mauritius and of the danger those unvaccinated persons may run if an epidemic of small-pox happened to break out. The wide margin between vaccinated and unvaccinated children is to be attributed largely to the fact that in certain sections of the community, children are not, as a rule, submitted to vaccination.

## PUERPERAL SEPTICÆMIA AND FEVER.

In 1924, 260 women died in consequence of the puerperal state against 228 in 1923. The deaths are classified as under:—

|                               |    | 1923  |    | 1924  |
|-------------------------------|----|-------|----|-------|
|                               |    | <hr/> |    | <hr/> |
| Uncontrollable vomiting       | -- | ...   | -- | 3     |
| Puerperal hæmorrhage          | -- | 2     | -- | 6     |
| Other accidents of childbirth | -- | 171   | -- | 198   |
| Puerperal fever               | -- | 35    | -- | 37    |
| „ convulsions                 | -- | 18    | -- | 16    |
| „ embolism                    | -- | 1     | -- | ...   |
| Abortion                      | -- | 1     | -- | ...   |
|                               |    | <hr/> |    | <hr/> |
| Total                         | -- | 228   |    | 260   |
|                               |    | <hr/> |    | <hr/> |
| Percentage of total deaths    | -- | 2.1   | -- | 2.5   |

19 cases of puerperal septicæmia, of which 9 proved fatal, were treated in hospital against 24 cases and 9 deaths in 1923.

(Case mortality 47.4% against 37.5% in 1923.)

17 notifications were received during the year against 18 in 1923. The tables appearing at the beginning of this chapter contain fuller details of the cases notified.

15,430 being the number of live births for 1924, the mortality among women in childbirth is 16.8 per thousand of live births, a very high figure, against 16.4 for 1923.

Unqualified and unfit midwives are undoubtedly responsible for a large proportion of those deaths. With the development and carrying out of the measures mentioned in the preceding chapter, "Midwifery and Child Welfare," the future may be expected to be less sad for women in childbirth in the poorer classes.

## MEASLES.

7 cases were notified against 9 in 1923. Full details are given in the preceding tables. One hospital admission (Victoria Hospital).—During 1924 no death was registered from Measles.

## ERYSIPELAS.

14 cases were notified against 16 in 1923. The distribution of the cases is shown in the preceding tables.

10 deaths were registered against 9 the previous year.

Hospital admissions reached 19 with 5 deaths against 24 with 4 deaths in 1923.

## CEREBRO-SPINAL MENINGITIS

Two cases were notified in 1924, as per tables appearing at the beginning of this chapter; 2 cases were treated in hospital resulting in one death.

## CHICKEN-POX.

One case was notified in Port Louis, in November. 2 cases were treated in hospital, one at the Civil and the other at Victoria Hospital.



NON NOTIFIABLE DISEASES

MALARIA.

Malaria is not a notifiable disease in Mauritius, so the number of cases cannot be accurately given beyond admission for the disease in hospital, treatment at dispensaries and deaths certified by medical practitioners.

The total number of admissions in hospitals for Malaria (Hypertrophy of spleen included) was 1,739, a decrease of 35 over the figure for 1923. The case mortality was 2.4% against 2.1% the previous year and 1.5 in 1922.

The following statement shows the admissions for Malaria and Hypertrophy of Spleen and deaths from both causes during the year under review :—

| INSTITUTIONS<br>—          | MALARIA    |        | HYPERTROPHY OF SPLEEN |        |
|----------------------------|------------|--------|-----------------------|--------|
|                            | Admissions | Deaths | Admissions            | Deaths |
| Civil Hospital ...         | 634        | 20     | 48                    | 1      |
| Port Louis Prison ...      | 11         | ...    | 5                     | ...    |
| Long Mountain Hospital ... | 96         | ...    | 6                     | ...    |
| Poudre d'Or Hospital ...   | 290        | 5      | ...                   | ...    |
| Flacq ...                  | 84         | 2      | ...                   | ...    |
| Mahébourg ...              | 112        | 8      | 4                     | ...    |
| Souillac ...               | 73         | ...    | 5                     | ...    |
| Victoria ...               | 159        | 4      | 45                    | 1      |
| Beau Bassin Prison ...     | 82         | ...    | 6                     | ...    |
| Reformatory ...            | 1          | ...    | ...                   | ...    |
| Moka Hospital ...          | 41         | ...    | 12                    | 1      |
| Mental Hospital ...        | 25         | ...    | ...                   | ...    |
| Total ...                  | 1,608      | 39     | 131                   | 3      |

The return for the last ten years is as under :—

| 1915  | 1916  | 1917  | 1918  | 1919  | 1920  | 1921  | 1922  | 1923  | 1924  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3,728 | 2,905 | 2,939 | 3,262 | 3,390 | 2,699 | 1,554 | 2,762 | 1,774 | 1,739 |

In the public dispensaries a total of 15,067 cases of malaria were treated against 19,268 the previous year and 30,897 in 1922. This shews a decrease of 4,201 over 1923.

The distribution, according to districts, of the deaths due to Malaria and Malarial Cachexia during 1924 has been shown under section "Deaths," Chapter I.

The total number of malaria deaths viz 1,707 is equivalent to a death-rate of 4.47 per thousand of the population against 5.1 for 1923 and 7.5 for the five-year period 1920-24.

The number of deaths due to Malaria and Malarial Cachexia viz 1,732 is equivalent to a death-rate of 4.53‰ for 1924, 5.2 for 1923 and 7.7 for the quinquennial period 1920-24.

It represents 16.4% of the total deaths for the year under review against 18.3% for 1923.

SPLEEN EXAMINATIONS AND BLOOD TESTS FOR MALARIAL PARASITES.

Spleen examination of school children continues to be made twice during the year.

This enumeration by Medical Officers of enlarged spleens or otherwise among school children is regarded as a fairly reliable index of the degree of malaria in a locality and is specially useful for purposes of comparison. The conclusion to be drawn from the examinations made in 1924 is a general decrease in the prevalence of malaria.

The following statement gives the spleen rates for the last five years :—

| District<br>—            | 1920  | 1921 | 1922 | 1923 | 1924 |
|--------------------------|-------|------|------|------|------|
|                          | %     | %    | %    | %    | %    |
| Port Louis - - -         | 20.1  | 13.9 | 20.8 | 8.7  | 7.16 |
| Pamplemousses - - -      | 15.8  | 8.3  | 12.8 | 25.3 | - -  |
| Rivière du Rempart - - - | 11.05 | 8.2  | 14.2 | 18.7 | - -  |
| Flacq - - -              | 19.1  | 13.7 | 21.3 | - -  | - -  |
| Grand Port - - -         | 16.4  | - -  | - -  | 19.5 | 21.3 |
| Savanne - - -            | 17.4  | - -  | - -  | 13.6 | 12.7 |
| Black River - - -        | 39.4  | 40.1 | - -  | 54.9 | 53.3 |
| Plaines Wilhems - - -    | 2.8   | - -  | - -  | - -  | .8   |
| Moka - - -               | 4.2   | 2.2  | 4.6  | 5.8  | 4.16 |
| Whole Colony --          | 13.4  | 10.0 | 15.8 | 15.6 | 11.2 |

(\*) Owing to illness and pressure of work, the Sanitary Warden could not make a complete spleen-census during the second half year.



These figures can only be regarded as approximate. The total number of children examined is 23,540.

The examination of the blood of children of primary schools with a view to ascertaining the presence of malarial parasites is now carried on as a routine measure by a trained Microscopist. The findings of the tests made in 1924 are shown hereunder:—

## BLOOD TESTS OF SCHOOL CHILDREN FOR MALARIAL PARASITES

| Name of School                           | No. of pupils examined | No. of pupils infected | No. of pupils having taken quinine at least once in the 8 days previous to examination | Percentage of pupils infected |
|--|------------------------|------------------------|--|-------------------------------|
| PORT LOUIS DISTRICT                      |                        |                        |  |                               |
| De la Salle Aided ...                    | 237                    | 8                      | 60   | 3.3                           |
| N. Dame de Bon Secours R.C. Aided ...    | 146                    | 3                      | ...  | 2                             |
| Champ de Lort Government ...             | 287                    | 28                     | ...  | 9.7                           |
| Central Girls' Government ...            | 173                    | 6                      | ...  | 3.4                           |
| Immaculée Conception R.C. Aided ...      | 256                    | 19                     | 31   | 7.4                           |
| Signal Mountain R.C. Aided ...           | 188                    | 23                     | 12   | 12.2                          |
| Western Suburb Government ...            | 202                    | 26                     | 14   | 12.8                          |
| Cassis Road Government ...               | 186                    | 20                     | 49   | 10.7                          |
| St. Joseph R.C. Aided, (Cassis) ...      | 127                    | 38                     | 57   | 29.9                          |
| N. Dame de Lorette R.C. Aided ...        | 196                    | 16                     | ...  | 8.1                           |
| Pamplemousses Road R.C. Aided ...        | 333                    | 26                     | 333  | 7.8                           |
| St. Joseph R.C. Aided, (Magon Street)... | 185                    | 15                     | ...  | 8.1                           |
| Soonee Soortee Mahomedan ...             | 178                    | 8                      | 33   | 4.5                           |
| Central Boys' Government ...             | 177                    | 7                      | 177  | 3.9                           |
| Arsenal Street Aided ...                 | 189                    | 10                     | 189  | 5.2                           |
| La Paix Street R.C. Aided ...            | 135                    | 5                      | 135  | 3.7                           |
| Nicolay Road R.C. Aided ...              | 144                    | 5                      | ...  | 3.4                           |
| Jean Lebrun Aided ...                    | 85                     | 4                      | 40   | 4.7                           |
| Eastern Suburb Pamp. Road Govt. ...      | 150                    | 1                      | ...  | 0.6                           |
| Père Laval Aided ...                     | 65                     | 2                      | ...  | 2.8                           |
| Ste. Croix R. C. Aided ...               | 64                     | 5                      | ...  | 3                             |
| Vallée des Prêtres Government ...        | 92                     | 1                      | ...  | 7.1                           |
| Eastern Suburb (Canal St.) Government    | 139                    | 4                      | ...  | 1                             |
| PAMPLEMOUSSES DISTRICT                   |                        |                        |  |                               |
| Crève Coeur Government ...               | 104                    | 2                      | ...  | 2                             |
| Ruisseau Rose Government ...             | 199                    | 6                      | ...  | 3                             |
| Pamplemousses Government ...             | 131                    | 4                      | ...  | 3                             |
| GRAND PORT DISTRICT                      |                        |                        |  |                               |
| Mahébourg Girls' R. C. Aided ...         | 148                    | 7                      | 72   | 4.7                           |
| Mahébourg Boys' Government ...           | 201                    | 4                      | 201  | 2                             |
| Rose Belle Boys' Government ...          | 318                    | 2                      | 15   | 0.6                           |
| SAVANNE DISTRICT                         |                        |                        |  |                               |
| Rivière des Anguilles Government ...     | 200                    | 6                      | ...  | 3                             |
| Souillac R. C. Aided ...                 | 75                     | ...                    | 14   | 0                             |
| BLACK RIVER DISTRICT                     |                        |                        |  |                               |
| Bambous Government ...                   | 111                    | 14                     | ...  | 12.6                          |
| Clarens Government ...                   | 52                     | 6                      | 20   | 11.5                          |
| Case Noyale Aided ...                    | 67                     | 3                      | 2  | 4.4                           |
| Tamarind Bay Aided ...                   | 12                     | 3                      | ...  | 25                            |
| PLAINES WILHEMS DISTRICT                 |                        |                        |  |                               |
| Curepipe Boys' R. C. Aided ...           | 140                    | 1                      | ...  | 0.7                           |
| Curepipe Girls' R. C. Aided ...          | 135                    | 3                      | ...  | 2.2                           |
| Stanley Road R.C. Aided (Rose Hill)...   | 125                    | 1                      | ...  | 0.8                           |
| MOKA DISTRICT                            |                        |                        |  |                               |
| Quartier Militaire Aided ...             | 123                    | 7                      | ...  | 5.6                           |
| Montagne Blanche Aided...                | 120                    | 9                      | 120  | 7.5                           |
| Verdun Aided - - -                       | 136                    | 7                      | ...  | 5.1                           |
| Saint Pierre Aided - - -                 | 161                    | 5                      | ...  | 3.1                           |
| Quartier Militaire R. C. Aided - - -     | 37                     | 1                      | ...  | 2.7                           |
| Helvetia R. C. Aided - - -               | 115                    | 4                      | 4  | 3.4                           |
| Moka Government - - -                    | 129                    | 2                      | ...  | 1.5                           |
| Sainte Marie Aided - - -                 | 63                     | 1                      | ...  | 1.5                           |
| Côte d'Or Aided - - -                    | 48                     | 1                      | ...  | 2                             |



## RECAPITULATION.

| District                | No. of pupils examined | No. of pupils infected | No. of pupils having taken quinine at least once in the 8 days previous to examination | Percentage of pupils infected |
|-------------------------|------------------------|------------------------|--|-------------------------------|
| Port Louis - - - -      | 3,934                  | 279                    | 1,130  | 7                             |
| Pamplemousses - - - -   | 434                    | 12                     | ...  | 2.7                           |
| Grand Port - - - -      | 667                    | 13                     | 288  | 1.9                           |
| Savanne - - - -         | 275                    | 6                      | 14   | 2.1                           |
| Black River - - - -     | 242                    | 26                     | 22   | 10.7                          |
| Plaines Wilhems - - - - | 400                    | 5                      | ...  | 1.2                           |
| Moka - - - -            | 932                    | 37                     | 124  | 3.9                           |
| Total - - - -           | 6,884                  | 378                    | 1,578  | 5.4                           |

## MALARIA CAMPAIGN.

Although the prevalence of malaria has been constantly decreasing during the last few years, that disease still constitutes a powerful disabling influence and a serious menace to the health and material prosperity of the Colony.

No effort is however spared to combat the causes of the disease and of its spread.

Dr. Mac Gregor, in his report on malaria in Mauritius, made proposals with a view to the eradication of malaria from the island. These proposals seem sufficiently promising of success to justify great efforts being made to carry them to a conclusion.

The Malaria campaign suggested requiring the services of a supervising and technical staff possessing special wide experience, Dr. A. Balfour advised Government to apply to the Rockefeller Foundation.

Formal application to the International Health Board of that Foundation has been made a few months ago. The scheme aims at securing the valuable co-operation of the International Health Board on lines similar to those of the Ankylostomiasis Campaign. It is earnestly hoped that the Board will agree to assist. The question of malaria is too large a problem for anything but whole time effort. It is essential for success that it be dealt with by a staff free to give undivided and continuous attention to the question. The malaria problem must further be looked upon as a whole so that the work undertaken will follow a single plan of action ultimately resulting in completion without overlapping or leaving gaps.

The section "Anti Malarial Works" of Chapter VII gives particulars of the measures taken in 1924 in connection with the prevention of Malaria.

## DYSENTERY.

Dysentery should be made notifiable. In the draft Health Ordinance the necessary provision to that effect has been made.

The mortality due to that disease in 1924 was 336 against 318 in 1923 and 567 the average for the quinquennial period 1919-23. It is equivalent to 3.2% of total deaths against 3% in 1923. The months with highest deaths were April, May, July and August and those with lowest deaths, November and December.

The hospital admissions reached 458 (with 23 deaths) against 379 (24 deaths) in 1923 and 530 average for the five-year period 1919-23. The hospital case mortality was 5.02% against 6.3% the previous year.

1,675 cases were treated in the dispensaries against 1,573 in 1923 and 1,400 the mean for the quinquennial period 1919-23.

## LEPROSY.

The number of inmates at the Leper Asylum on 1st January 1924 was 38 (22 males, 16 females) including one male child, not affected with the disease, but admitted with his mother.

During the year, there were 2 admissions (1 male, 1 female), 7 deaths (5 males, 2 females) and no discharges.

Eight lepers (5 males, 3 females) absconded during their transfer from St. Lazare Asylum to the new Asylum at Powder Mills.

The admissions were new cases and in the following stages of the disease: one tubercular and the other anæsthetic; they came from Port Louis and Grand Gaube.

Two deaths from leprosy were registered in the whole Colony.

Leprosy is not a notifiable disease in Mauritius.

It is probably common enough in the Colony. Every day cases are met with in the streets of Port Louis and elsewhere.

No law exists for the compulsory segregation of lepers except convict, pauper or vagrant lepers. They wander about at liberty living with their families and transmitting the disease.

There is no power to prohibit marriages between or with lepers, hence the hereditary taint continues to be spread.



In the draft Public Health Ordinance leprosy is made notifiable and power is given to the Director of the Health Department to make regulations providing for the restriction of lepers in regard to various trades and occupations. It is hoped that this ordinance will soon be passed and put into force.

The new Leper Asylum at Pamplémousses, on the grounds of the former Powder Mills, was opened on the 1st February 1924 and thirty inmates (38 on 1.1.24 less 8 absconded during transfer) from St. Lazare were admitted to the Institution.

A Medical Officer is in charge assisted by a Dispenser-Steward and three Sisters of Mercy.

The lepers are kept within the walls of the Asylum and are not allowed to go out. To compensate for this enforced isolation extra comforts have been provided for them. Acting on the suggestion of the former Governor, Sir Hesketh Bell, the Department has caused a flower garden to be planted near the main entrance and steps have been taken to enable the lepers to cultivate a small flower plot in front of their quarters.

They are allowed twice a year, on the occasion of the King's birthday and on New Year's Day, Rs. 75 for extra comforts. Charitable visitors have supplied them with various games, a gramophone and a few records, the number of which may be increased by an appeal to the public as was made in the case of the Mental Hospital.

#### TREATMENT.

During the year a new admission was treated with intra-muscular injections of Eparseno. The case was thought to be an ideal one for this therapeutic agent as the leper was suffering from syphilis as well. After three months of treatment the patient was greatly improved. He unfortunately developed Erysipelas and died. Moogrol was also used.

"Oscol" Stibium will be tried at an early date.

It is hoped in the near future to avail of the assistance of the British Empire Leprosy Relief Association in connection with the treatment of infection.

It has been proposed to grant a scholarship to the Government Medical Officer, Pamplémousses (who is the officer in charge of the Leper Asylum) to enable him to train specially in Leprosy in South Africa.

#### PULMONARY TUBERCULOSIS.

This disease is not notifiable yet in Mauritius. Provision for its compulsory notification has been made in the draft Health Ordinance.

Hospital admissions reached 408 against 368 in 1923, 444 in 1922 and 577 in 1921. The case mortality was 26.2% (107 deaths) against 28.2% (104 deaths) in 1923.

The mortality from pulmonary tuberculosis in the whole Colony was 869 against 828 in 1923, 958 in 1922 and 950 mean for the five-year period 1919-1923

The table hereunder shows the distribution of deaths from tuberculous diseases for 1924 and the preceding five years :—

|                               | 1919  | 1920  | 1921  | 1922  | 1923 | Average | 1924 |
|-------------------------------|-------|-------|-------|-------|------|---------|------|
| Pulmonary tuberculosis - - -  | 1,047 | 974   | 945   | 958   | 828  | 950     | 869  |
| " " and Phthisis              | 1,065 | 1,005 | 1,010 | 1,076 | 959  | 1,023   | 940  |
| All forms of tuberculosis - - | 1,104 | 1,030 | 1,035 | 1,083 | 979  | 1,046   | 960  |

The mortality due to pulmonary tuberculosis represents 8.2% of the total deaths for 1924 against 7.7% in 1923. The months with highest deaths were November (94), August (91), October (88) and those with lowest deaths, January (49) and February (48).

The Tuberculosis Clinic, at the Civil Hospital, started in November 1923, is placed under the immediate charge of Dr. E. Rama, as honorary physician. The latter attends twice a week and is assisted by a Dispenser and also by a trained Microscopist who is in attendance on visiting days.

161 patients have been hitherto examined and treated at the Clinic which is mainly for outdoor patients. Serious advanced cases are referred to the Civil Hospital, indoor section.

The labouring class contributed a very large proportion of the patients treated. Very few of the latter were under fifteen years of age.

The responsible Medical Officer reports that the outlook is encouraging and that the patients are satisfied with the treatment administered, which is kept up-to-date.

#### INFLUENZA.

For the whole Colony the deaths from influenza stand at 760 against 556 in 1923, 631 in 1922 and 2,598 mean for the five years 1919-1923.



From 1919, year of the Influenza epidemic, Mauritius appears to be periodically visited by outbreaks of influenza epidemics, more or less extensive and severe. The following table shows the number of deaths from Influenza yearly from 1914, and the percentage of Influenza deaths to total deaths :—

| Year | No. of deaths | Percentage of total deaths | Year | No. of deaths | Percentage of total deaths |
|------|---------------|----------------------------|------|---------------|----------------------------|
| 1914 | 268           | 2.2                        | 1920 | 334           | 2.8                        |
| 1915 | 197           | 1.5                        | 1921 | 1,563         | 10.3                       |
| 1916 | 233           | 2.0                        | 1922 | 631           | 4.9                        |
| 1917 | 252           | 2.1                        | 1923 | 556           | 5.2                        |
| 1918 | 198           | 1.5                        | 1924 | 760           | 7.2                        |
| 1919 | 9,905         | 40.5                       |      |               |                            |

The mortality represents a death rate of 1.99 ‰ against 1.47 ‰ in 1923.

The hospital returns show 1,940 admissions with 74 deaths against 1,192 admissions with 53 deaths in 1923 and 1,596 admissions with 51 deaths in 1922.

The hospital case mortality in 1924 was 3.8% against 4.4% in 1923 and 3.2 in 1922. The average number of admissions during the five years 1919–1923 was 2,571.

9,714 cases of Influenza received treatment at the public dispensaries in 1924. These cases are distributed over the periods (a) January-June, (b) July-August, and (c) September-December, roughly in the proportion of 30, 31 and 35 respectively.

The Influenza epidemic of 1924, though rather mild, affected every district, particularly Savanne. The wave was fully established towards mid-July; it lasted till the middle of August. Deaths occurred monthly as under :—

| Jan. | Feb. | Mch. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|------|------|------|------|-----|------|------|------|-------|------|------|------|-------|
| 30   | 17   | 31   | 37   | 43  | 45   | 196  | 141  | 69    | 55   | 39   | 57   | 760   |

#### PNEUMONIA.

In the whole Colony, the deaths from Pneumonia during 1924 reached 1,018 against 1,083 in 1923 and 1,373 mean for the five years preceding 1924. The months with highest deaths were July (149), August (127), October (120) and December (113).

The hospital admissions numbered 211 with 104 deaths against 287 with 103 deaths in 1923 and 280 with 99 deaths, means for the five-year period 1919–1923.

These figures are equivalent to a case mortality of 49.3% for 1924, 35.9% for 1923 and 34.3% mean for 1919–23.

440 cases were treated at the public dispensaries.

The deaths from Broncho-pneumonia (255), Pneumonia (type not stated) (1018) and Lobar-pneumonia (23) total 1296 in 1924 against 1393 (290, 1083 and 20 respectively) in 1923.

They represent 12.3% of total deaths against 12.9% in 1923 and 11.9% in 1922. Had it not been for the wave of influenza which swept over the island during 1924, there would probably have been registered a notable reduction in mortality from pneumonia.

#### BRONCHITIS.

The total deaths registered in the Colony numbered 537 against 521 the previous year and 658 average for the five years preceding 1924. They represent 5.1% of total deaths against 4.8 in 1923 and 4.2 in 1922.

The months with highest deaths were December (65), November (59), October (56) and August (56). Deaths in the other months varied between 30 and 45.

The hospital admissions reached 899 with 32 deaths against 925 with 23 deaths in 1923, giving a case mortality of 3.5% against 2.5% in 1923.

5,245 cases were treated at the public dispensaries.

The slight increase in the number of deaths and in the percentage of the deaths from bronchitis to total deaths, is to be ascribed mainly to complication of Influenza.

#### DIARRHOEA AND ENTERITIS.

In the whole Colony there occurred 547 deaths from diarrhoea and enteritis in the year under review against 625 in 1923.

This is equivalent to a death-rate of 1.4 ‰ and a percentage of 5.2 of total deaths against 1.6 ‰ and 5.8 for 1923. The death-rate was 1.9 ‰ in 1922 and 2.3 ‰ in 1921.

In the hospitals 532 cases were treated resulting in 69 deaths, giving a case mortality of 13%. The corresponding figures for 1923 are 506, 45 and 8.9%.

In the months January-July, deaths ascribed to diarrhoea and enteritis averaged 54 monthly and in August-December period, the monthly average was 34.



## ORGANIC DISEASES OF THE HEART.

Deaths, in the whole Colony, from organic diseases of the heart numbered 148, giving a percentage of 1.4 of total deaths as against 151 deaths and 1.4% of total deaths for 1923.

Hospital admissions reached 145 resulting in 29 deaths against 117 admissions and 22 deaths in 1923. The case mortality was thus 20% in 1924 and 18.8% in 1923.

## CANCER OR MALIGNANT DISEASE.

The following table supplies particulars relating to this disease :—

|                             | 1923   | 1924  |
|-----------------------------|--------|-------|
| Hospital admissions - - - - | 87     | 73    |
| „ deaths - - - -            | 9      | 10    |
| „ case mortality - - - -    | 10.34% | 13.7% |

|   | 1923 | 1924 |
|---|------|------|
| Deaths registered (whole Colony) - -    | 54   | 50   |
| distributed as follows :—               | —    | —    |
| Cancer of the buccal cavity - - -       | 2    | 2    |
| „ „ stomach, liver, &c. - - -           | 15   | 12   |
| „ „ peritoneum, intestines and rectum - | 5    | 1    |
| „ „ female genital organs - - -         | 7    | 12   |
| „ „ breast - - - -                      | 2    | 3    |
| „ „ other unspecified organs - -        | 23   | 20   |

## VENEREAL DISEASES.

27 deaths from Syphilis were registered in 1924, against 22 in 1923. In hospital, 281 cases were treated and 4 deaths recorded as compared with 254 cases and 5 deaths in 1923. The hospital cases are distributed as under :—

|                           | Cases | Deaths |
|---------------------------|-------|--------|
| Primary Infection - - - - | 55    | ...    |
| Secondary „ - - - -       | 102   | 2      |
| Tertiary „ - - - -        | 118   | 2      |
| Inherited „ - - - -       | 6     | ...    |
|                           | 281   | 4      |

The Royal Commission appointed in 1916 to enquire into the prevalence of Venereal Diseases in the United Kingdom, their effects on the community and the means by which these effects can be alleviated or prevented, reported that the effects of Venereal diseases upon individuals and upon the race are grave and far-reaching, involving a heavy loss to the community in actual and potential population as well as in money.

“ These scourges operate with disastrous results alike on birth-rate, upon the child-life and upon the working efficiency. They are responsible for a large proportion of the cases of paralysis and insanity which fill our general and mental hospitals and for many deaths from heart diseases and heart failure.”

On the other hand it appeared evident that by early and efficient treatment venereal diseases could be brought under control and reduced within narrow limits, but that in most cases treatment was unduly delayed while the best modern methods of diagnosis and treatment were not within the reach of the general population.

A scheme has been put up on these general lines, with a view to reducing the number of cases and alleviating the unfortunate position of those affected with the disease who are at the same time a source of contamination to others.

For various reasons delay occurred, the principal being due to difficulties arising with the medical practitioner who was to take charge of the clinic.

Otherwise the Venereal Clinic, situated on the Civil Hospital grounds, was ready to be opened by the end of the year under review. It was actually opened on the 4th February 1925. Dr. E. de Robillard, the Officer in charge, attends twice a week. He is assisted by a Dispenser and Warder.

When the public shall have understood that there is no publicity or embarrassing conditions of discrimination, the gratuitous and modern treatment offered will, it is hoped, be fully availed of. Sufferers from the diseases should not stop treatment when the symptoms disappear but persevere until the Medical Officer is satisfied that a cure or the utmost relief procurable has been obtained.



It is proposed to appoint a whole time officer to take charge of the Tuberculosis Dispensary and Venereal Clinic, Port Louis.

ANKYLOSTOMIASIS

61 deaths from Ankylostomiasis were registered in 1924 against 51 in 1923 and 56 in 1922. 768 cases were treated in hospital, 12 of which proved fatal against 500 cases and 13 deaths in 1923. The case mortality thus works out at 1.56% for 1924 and 2.6% for 1923.

During the year under consideration, the Hookworm Campaign, carried on by the International Health Board of the Rockefeller Foundation on a three years' agreement started in May 1922, examined a total of 42,085 persons in the four districts where Soil Sanitation had been completed viz: Port Louis, Moka, Grand Port and Savanne. The findings are shown in the table hereunder :

SUMMARY OF HOOKWORM CAMPAIGN—1924

| District           | Census | Examined | Positive for |                 |                |               |         |       |
|--------------------|--------|----------|--------------|-----------------|----------------|---------------|---------|-------|
|                    |        |          | Hookworm     | Other helminths |                |               |         |       |
|                    |        |          |              | Ascaris         | Trichocephalus | Strongyloides | Oxyuris | Tœnia |
| Port Louis - - - - | 3,551  | 2,838    | 1,492        | 1,248           | 2,469          | 6             | 12      | ...   |
| Moka - - - -       | 7,226  | 5,509    | 4,506        | 3,087           | 2,539          | 30            | 15      | 1     |
| Grand Port - - - - | 36,748 | 25,136   | 18,855       | 13,198          | 11,640         | 9             | 7       | ...   |
| Savanne - - - -    | 12,573 | 8,602    | 6,856        | 4,693           | 3,228          | 6             | 44      | ...   |
| Total - - - -      | 60,098 | 42,085   | 31,709       | 22,226          | 19,876         | 51            | 78      | 1     |

The following table shows the treatments given and the findings on re-examination after treatment.

| District           | Treatments |        |       |        | Re-examinations after treatment |          |          |          |          |          |             |
|--------------------|------------|--------|-------|--------|---------------------------------|----------|----------|----------|----------|----------|-------------|
|                    | First      | Second | Third | Total  | First                           |          | Second   |          | Third    |          | Total cured |
|                    |            |        |       |        | Positive                        | Negative | Positive | Negative | Positive | Negative |             |
| Port Louis - - - - | 965        | 109    | 38    | 1,112  | 15                              | 56       | ...      | 8        | 1        | 16       | 80          |
| Moka - - - -       | 3,812      | 1      | ...   | 3,813  | 73                              | 146      | ...      | ...      | ...      | ...      | 146         |
| Grand Port - - - - | 11,542     | 680    | 15    | 12,237 | 289                             | 564      | 16       | 156      | ...      | ...      | 720         |
| Savanne - - - -    | 3,189      | 206    | ...   | 3,395  | 15                              | 38       | ...      | 1        | ...      | ...      | 39          |
| Total - - - -      | 19,508     | 996    | 53    | 20,557 | 392                             | 804      | 16       | 165      | 1        | 16       | 985         |

An interesting leaflet with reference to the prophylaxis of Ankylostomiasis was issued in 1908 and illustrated bulletins on the same subject were largely distributed as a routine measure during the present Hookworm campaign.

As Hookworm disease is spread largely by soil pollution, its control depends chiefly on sanitary improvement in respect to latrines and to the disposal of human fæces.

The Medical department has spared no effort with a view to regulating the proper disposal of human fæces and also with a view to securing fly-proof privies for every dwelling all over the island. The only district where soil sanitation campaign requires to be started on an intensive scale is Black River. When the sanitation of that district shall have been completed, it will be reasonable to contemplate the risks of soil pollution in Mauritius to be negligible, being given that the custom has now been generally established of using the latrine instead of the canefield.

However incredible this might appear in certain quarters, the fact remains that in an unexpectedly short time, the large majority of the lower classes, even of the Indians, appear to have grasped the advantages of using the latrines they have had to provide and for which they pay a sanitary rate.



The table hereunder, compiled from replies received from several sanitary sections, gives an idea of the proportion of inhabitants now using their latrines :—

|                                | % POPULATION USING |                |         |
|--------------------------------|--------------------|----------------|---------|
|                                | Large Villages     | Remote Hamlets | Estates |
| Port Louis,—Extra-Urban        | - - 85-90%         |                | ...     |
| Mahébourg Section,—Grand Port  | - 95%              | 80-85%         | 70-75%  |
| Rose Belle Section,—Grand Port | - 95-98%           | 80-85%         | 70-75%  |
| Savanne                        | - - - 90%          | 70%            | 60-70%  |
| Vacoas-Phoenix                 | - - - 90-95%       | 80-85%         | 70-75%  |

It may therefore be hoped that fewer and fewer shall henceforth be the victims of Ankylostomiasis, which, as Malaria, is a powerful disabling influence, leaving those it has attacked an easy prey to other diseases.

#### BERI-BERI.

3 deaths from this disease were registered in 1924 against 5 in 1923, 17 in 1922, 71 in 1921 and 29 in 1920. 17 cases were treated in hospital, all of which recovered.

#### ITCH (SCABIES)

117 cases received hospital treatment against 154 in 1923. The Danish treatment of Scabies by means of Mr. Marcussen's ointment, introduced by Professor Ehlers, has been recently adopted here. It has already given striking results.

#### MENTAL DISEASES

Mental diseases are specially and fully reported upon in Appendix V (report by the Superintendent, Mental Hospital).

20 deaths from Epilepsy were registered during the year in the whole Colony.

#### MISCELLANEOUS

The table hereunder shows (compared with 1923) the number of deaths from various diseases or accidents registered in 1924.

#### DISEASES OR ACCIDENTS

|   | 1923 | 1924 |
|---|------|------|
| Whooping cough - - - - -                      | 147  | 35   |
| Septicæmia - - - - -                          | 38   | 36   |
| Tetanus - - - - -                             | 36   | 48   |
| Rickets - - - - -                             | 6    | 4    |
| Diabetes - - - - -                            | 21   | 21   |
| Convulsions (non puerperal, 5 years & over) - | 16   | 14   |
| Infantile Convulsions (under 5 years) -       | 109  | 100  |
| Empyema - - - - -                             | 1    | 2    |
| Other Pleurisy - - - - -                      | 10   | 10   |
| Pulmonary Apoplexy - - - - -                  | ...  | 1    |
| „ Cœdema and congestion - - - - -             | 4    | 11   |
| Gangrene of the lung - - - - -                | 2    | 6    |
| Asthma - - - - -                              | 66   | 59   |
| Gastro-enteritis - - - - -                    | 104  | 93   |
| Appendicitis - - - - -                        | 5    | 9    |
| Hernia - - - - -                              | 26   | 19   |
| Bright's disease - - - - -                    | 296  | 315  |
| Nephritis (10 years & over) and Uræmia -      | 192  | 170  |

### V.—Port and Quarantine.

236 vessels called at the harbour of Port Louis in 1924. The distribution is as under :—

|                     | Sailing crafts | Steamers         |
|---------------------|----------------|------------------|
| British vessels - - | 22             | 160              |
| Foreign „ - -       | ...            | 54               |
|                     | <u>22</u>      | <u>214 = 236</u> |

The crew in steamers (British and Foreign) numbered 17,338 and that in sailing crafts 299. The number of passengers examined in steamers was 5,511 and that in sailing crafts 288.



Pratique was given to 196 vessels immediately on arrival, while 2 vessels coming from infected ports were only admitted to pratique after disinfection of linen and effects of passengers and crew and fumigation of the forecastle and 27 others, also coming from infected ports, were admitted to pratique after disinfection of linen and effects of passengers and crew and claytonisation of the cargo. The number of vessels refusing pratique and taking coal etc. in strict quarantine was 11.

20 outgoing vessels were claytonised on request of the owners or agents on account of the prevalence of plague in the Colony.

The revenue accruing to the Department in connection with claytonisation of vessels and operations at the Harbour Disinfecting Station amounted to Rs. 4,976.91.

The S.S. "Janus," which arrived in Mauritius on the 15th January 1924 with over 300 Indian immigrants and other passengers, had a case of measles amongst the immigrants.

The immigrants and deck passengers were landed at Cannoniers' Point Quarantine Station. The vessel was disinfected and fumigated, and placed under observation for twelve (12) days from the 16th, after claytonisation of the cargo.

The S.S. "Armanestan" reached this port on the 20th May 1924, from Hong Kong, with 850 Chinese passengers on board. During the inspection, one passenger (a child of about 2 years old) was found suffering from small-pox. Three other suspicious cases (one grown-up female and 2 males) were also detected. As the Surgeon in charge of the passengers was not of the opinion of the Port Health Officer, the matter was referred to the Acting Director of the Medical and Health Department, who deputed Dr. Kirk, Medical Officer of Health, Port Louis to examine the cases. He confirmed the Port Health Officer's opinion, and action was at once taken to place the vessel in quarantine.

As it was considered not advisable to land the passengers at Flat Island Quarantine Station, after the Harbour Tug "Labourdonnais" had gone ashore on the reefs there, they had to be detained on board the vessel at the outer anchorage. The patient as well as the suspicious cases and the child's mother were removed to the hulk "Jane Kilgour" at the outer anchorage and detained there until they were completely cured. An additional observation period of 13 days was imposed upon them as well as upon the different members of the staff (cook, compounder, constables) before they were released.

By regulations published under Government Notification No. 143 of the 31st May 1924, S.V. "Jane Kilgour" was authorized to be used as a Quarantine Station on that occasion.

The clothes, bedding and effects of the passengers and crew of the S.S. "Armanestan" were thoroughly disinfected and fumigated. Everybody on board the vessel was vaccinated very soon after the case had been officially recognised.

The quarantine of the S.S. "Armanestan" was raised on the 13th June and that of the "Jane Kilgour" on the 30th of the same month. No fresh case was noticed during the period of observation.

Flat Island Quarantine Station was not actually used for quarantine purposes during the year under review.

Cannoniers' Point Quarantine Station was used for sanitary "surveillance" on four occasions in 1924 in connection with the new Immigrants introduced from India.

The first occasion was at the same time a quarantine for measles. The S.S. "Janus" landed 315\* immigrants and 35 deck passengers who were kept at the station from the 16th to 31st January.

The second batch of immigrants (203\* in number) arrived by S.S. "Janus" and was kept at the station from the 14th to the 19th March. The third batch (163\* in number) was detained at the station from the 20th to the 26th May. The last batch (153\* in number), ex S.S. "Surada", was kept at the station from the 19th to 24th June.

## VI.—Hospitals, Asylums, Lazarets and Dispensaries.

Eight public general hospitals exist, one in each of the districts, Black River excepted. The inhabitants of the latter district (which is thinly populated) generally seek admission at Victoria Hospital, situated at Quatre Bornes, which is the nearest hospital for the larger part of the district. Those of the extreme north of that district generally are sent to the Civil Hospital, in Port Louis.

The Port Louis and Beau Bassin Prisons, as well as the Government Reformatory, situated at Rose Hill, are each provided with a hospital for their own needs.

A special hospital for Mental diseases exists at Beau Bassin. During 1924, its title was changed from Lunatic Asylum to Mental Hospital. Mental diseases and the Mental Hospital have been reported upon in Chapter IV and Appendix V.

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\* This number includes women and children.



The Mental hospital is under complete re-organization. A scheme has been put up for the taking over of part of the Barkly Asylum grounds.

The question of Criminal Mental patients requires to be settled in the light of experience acquired and the provision of separate accommodation for criminal and dangerous lunatics demands early action.

A new asylum for lepers was opened on the 1st February, 1924. It is situated on the grounds of the former Powder Mills, at Pamplémousses. The St. Lazare Leper Asylum from which the lepers were transferred to the new asylum was concurrently closed.

The accommodation, nursing facilities and management constitute an important improvement on the previous state of matters.

(Leprosy has been reported upon in Chapter IV).

Plague lazarets exist in several districts, the largest and most important being the Grand River North West lazaret, in the district of Port Louis.

New dispensaries at Grand Sable and Black River hamlets were opened during 1924. The medical attendance in the district of Black River was largely improved by more frequent visits at the dispensaries and by larger facilities given (through the supply of bicycles) for domiciliary visits by the public dispensers.

At the end of the year it was proposed to open a new dispensary at Tamarin village.

At the close of the year the number of public dispensaries was as under : —

| General<br>Serial<br>No. | District<br>Serial<br>No. | District                      | Locality                          | General<br>Serial<br>No. | District<br>Serial<br>No. | District                           | Locality                      |
|--------------------------|---------------------------|-------------------------------|-----------------------------------|--------------------------|---------------------------|------------------------------------|-------------------------------|
| 1                        | -                         | 1.—Port Louis                 | .. Central <sup>(a)</sup>         | 16                       | -                         | 4.—Grand Port, Bois des Amourettes |                               |
| 2                        | -                         | 2                             | ...Eastern <sup>(b)</sup>         | 17                       | -                         | 5                                  | ...Grand Sable <sup>(c)</sup> |
| 3                        | -                         | 1.—Pamplémousses, Terre Rouge |                                   | 18                       | -                         | 1.—Savanne                         | ...R. des Anguilles           |
| 4                        | -                         | 2                             | ...Pamplémousses                  | 19                       | -                         | 2                                  | .. Chemin Grenier             |
| 5                        | -                         | 1.—R. du Rempart, Grand Bay   |                                   | 20                       | -                         | 3                                  | ...Baie du Cap                |
| 6                        | -                         | 2                             | ...Grand Gaube                    | 21                       | -                         | 1.—Black River, Petite Rivière     |                               |
| 7                        | -                         | 3                             | ...Le Ravin                       | 22                       | -                         | 2                                  | ...Bambous                    |
| 8                        | -                         | 1.—Flacq                      | .. St. Julien <sup>(c)</sup>      | 23                       | -                         | 3                                  | ...Case Noyale                |
| 9                        | -                         | 2                             | ...Brisée Verdière <sup>(c)</sup> | 24                       | -                         | 4                                  | ...Black River <sup>(c)</sup> |
| 10                       | -                         | 3                             | ...Rivière Sèche                  | 25                       | -                         | 1.—P. Wilhems, Vacoas              |                               |
| 11                       | -                         | 4                             | ...Trou d'Eau Douce               | 26                       | -                         | 2                                  | ...Curepipe                   |
| 12                       | -                         | 5                             | ...Sébastopol <sup>(c)</sup>      | 27                       | -                         | 1.—Moka                            | ...Pailles                    |
| 13                       | -                         | 1.—Grand Port                 | ...New Grove                      | 28                       | -                         | 2                                  | ...Saint Pierre               |
| 14                       | -                         | 2                             | ...Plaine Magnien                 | 29                       | -                         | 3                                  | ...Quartier Militaire         |
| 15                       | -                         | 3                             | ...L'Escalier                     |                          |                           |                                    |                               |

Dispensaries are also attached to the general public hospitals, excepting Moka.

Bell Village and the Plaine Lauzun workshop are provided with special dispensaries for the needs of the inhabitants of the village and of the railway workmen respectively.

#### GENERAL HOSPITALS.

The year has been one of considerable progress with regard to hospital buildings, equipment and nursing staff.

Every endeavour has been made to carry out the recommendations of Dr. Balfour. The X-Ray equipment of the Civil Hospital has been improved by the acquisition of an up-to-date plant which was erected during 1924. Indents have been placed on the Crown Agents for an up-to-date X-ray plant for Victoria Hospital.

Moka Hospital has been further improved thanks to the energy and enthusiasm of Dr. G. Lécclézio.

During the year 80 english hospital beds were supplied. Mattresses, blankets, sheets and patients' clothing have been renewed on a large scale.

The employment of two English Matrons at Civil and Victoria Hospitals has been a good stimulus and it is hoped that with the new rules and regulations for hospital students (G.N. No. 10 of the 17th January, 1925) a better class of Warders and Nurses will be obtained.

A Laboratory Assistant, trained at the Bacteriological Laboratory, Réduit, has been placed at Victoria Hospital and it is proposed to extend the scheme to the Civil Hospital.

It is the aim of this department to treat the rural district hospitals, except Victoria and Moka hospitals, as clearing stations and to send all major surgical cases to Civil, Victoria or Moka Hospital as may be most convenient. With this end in view an up-to-date comfortable Ambulance will be necessary.

The lack of an Infectious Diseases Hospital in Mauritius is badly felt.

<sup>(a)</sup> Situated on Civil Hospital grounds.

<sup>(b)</sup> Situated in the Eastern suburb of the town.

<sup>(c)</sup> Dispensaries recently opened.



The table hereunder summarises the work of the hospitals during 1924.

REPORT ON HOSPITAL WORK FOR THE YEAR 1924.

| Hospitals          | Patients remaining on 31.12.23 |     |       | New admissions |        |        | Deaths |     |       | Patients remaining on 31.12.24 |     |     | No. of beds |         | No. of patients any date during 1924 |              | Medical cases |                | Surgical cases    |  | No. of operations                                       |   | Particular diseases causing largest No. of admissions |     | Particular diseases causing largest No. of deaths |        | Outdoor cases |
|--------------------|--------------------------------|-----|-------|----------------|--------|--------|--------|-----|-------|--------------------------------|-----|-----|-------------|---------|--------------------------------------|--------------|---------------|----------------|-------------------|--|---|---|---|-----|---|--------|---------------|
|                    | *P                             | †F  | Total | P              | F      | Total  | P      | F   | Total | P                              | F   | T   | No.         | of beds | Maxi-<br>mum                         | Mini-<br>mum | Medical cases | Surgical cases | No. of operations | Influenza, Malaria, Bronchitis, Nephritis, and Enteritis | Malaria, Influenza, Pneumonia, Dysentery and Bronchitis | Tubercle, Pneumonia, Enteritis, Influenza and Nephritis | ...   | ... | ...   |        |               |
|                    |                                |     |       |                |        |        |        |     |       |                                |     |     |             |         |                                      |              |               |                |                   |  |   |   |   |     |   |        |               |
| Civil              | 24                             | 123 | 147   | 1,477          | 4,670  | 6,147  | 43     | 336 | 379   | 47                             | 100 | 147 | 340         | 296     | 147                                  | 147          | 4,090         | 2,204          | 1,033             | Influenza, Malaria, Bronchitis, Nephritis, and Enteritis | Malaria, Influenza, Pneumonia, Dysentery and Bronchitis | Tubercle, Pneumonia, Enteritis, Influenza and Nephritis | ...   | ... | ...   | 1,411  |               |
| Port Louis Prison  | ...                            | 2   | 2     | ...            | 134    | 134    | ...    | ... | ...   | ...                            | 4   | 4   | 16          | 11      | 1                                    | 1            | 98            | 36             | 8                 | 8  | 8   | ...   | ...   | ... | 613   |        |               |
| Long Mountain      | ...                            | 11  | 11    | 70             | 985    | 1,055  | ...    | 47  | 47    | 1                              | 30  | 31  | 40          | 61      | 24                                   | 24           | 909           | 76             | 70                | ...  | ...   | Bronchitis and Tuberculosis                             | ...   | ... | ...   | 1,898  |               |
| Poudre d'Or        | ...                            | 1   | 9     | 10             | 20     | 1,134  | ...    | 39  | 39    | ...                            | 15  | 15  | 70          | 63      | 9                                    | 9            | 842           | 312            | 131               | ...  | ...   | Malaria   | ...   | ... | ...   | 820    |               |
| Flacq              | ...                            | ... | 12    | 12             | 98     | 1,162  | 1      | 59  | 60    | 3                              | 21  | 24  | 78          | 70      | 27                                   | 27           | 1,075         | 185            | 50                | ...  | ...   | Albuminuria and P. Tuberculosis                         | ...   | ... | ...   | 274    |               |
| Mahébourg          | ...                            | 2   | 16    | 18             | 92     | 1,606  | 6      | 107 | 113   | 4                              | 32  | 36  | 102         | 86      | 18                                   | 18           | 1,329         | 387            | 219               | ...  | ...   | Pneumonia and Valv. Disease of Heart...                 | ...   | ... | ...   | 5,162  |               |
| Souillac           | ...                            | 1   | 26    | 27             | 70     | 1,301  | 6      | 62  | 68    | ...                            | 24  | 24  | 88          | 71      | 25                                   | 25           | 1,079         | 292            | 114               | ...  | ...   | Influenza and Nephritis                                 | ...   | ... | ...   | 835    |               |
| Victoria           | ...                            | 5   | 76    | 81             | 264    | 3,218  | 9      | 181 | 190   | 7                              | 85  | 92  | 230         | 176     | 80                                   | 80           | 2,309         | 1,173          | 581               | ...  | ...   | Tuberculosis, Pneumonia and Nephritis                   | ...   | ... | ...   | 3,462  |               |
| Mental Hospital    | ...                            | 1   | 43    | 44             | 11     | 547    | 2      | 35  | 37    | 3                              | 32  | 35  | 34          | 52      | 30                                   | 30           | 483           | 75             | 19                | ...  | ...   | Epilepsy and Nephritis                                  | ...   | ... | ...   | 412    |               |
| Beau Bassin Prison | ...                            | ... | 6     | 6              | ...    | 321    | ...    | 1   | 1     | ...                            | 5   | 5   | 32          | 21      | 5                                    | 5            | 267           | 76             | 40                | ...  | ...   | Epilepsy and Tuberculosis                               | ...   | ... | ...   | 672    |               |
| Reformatory        | ...                            | ... | ...   | ...            | 26     | 26     | ...    | ... | ...   | ...                            | ... | ... | 10          | 7       | 1                                    | 1            | 24            | 2              | ...               | ...  | ...   | Diseases of the digestive system...                     | ...   | ... | ...   | 11     |               |
| Moka               | ...                            | 17  | 17    | 392            | 1,065  | 1,457  | 19     | 5   | 24    | 3                              | 10  | 13  | 85          | 79      | 13                                   | 13           | 428           | 1,029          | 688               | ...  | ...   | ...   | ...   | ... | ...   | ...    |               |
| TOTAL              | 34                             | 341 | 375   | 2,494          | 16,169 | 18,663 | 86     | 872 | 958   | 68                             | 358 | 426 | 1,125       | ...     | ...                                  | ...          | 12,933        | 5,847          | 2,953             | ...  | ...   | ...   | ...   | ... | ...   | 15,570 |               |

\* P. = Paying

† F. = Free



At the beginning of Chapter IV, a comparison is made of the number of hospital admissions, hospital outdoor cases and dispensary cases for the five years 1920-1924.

The following tables show: (a) the X-ray work, (b) the laboratory work, and (c) the radium applications made at the Civil Hospital during the year under review.

SUMMARY OF X-RAY WORK DONE AT THE CIVIL HOSPITAL DURING 1924.

|                             |   |   |   |   |   |                               |
|-----------------------------|---|---|---|---|---|-------------------------------|
| 1.—Radiographs              | - | - | - | - | - | 192                           |
| 2.—Radioscopic examinations | - | - | - | - | - | 16                            |
| Radiotherapy for:—          |   |   |   |   |   |                               |
| (a) Fibroma Uteri           | - | - | - | - | 6 | — 94 Irradiations or sittings |
| (b) Goitre glandular        | - | - | - | - | 2 | — 49 do.                      |

SUMMARY OF LABORATORY WORK DONE AT THE CIVIL HOSPITAL IN 1924.

| Specimens   | Nature of research |   |   |   | No. |
|---|--------------------|---|---|---|-----|
| Blood films   | -                  | - | - | - | 40  |
| do.   | -                  | - | - | - | 4   |
| Cerebro-spinal fluid                                    | -                  | - | - | - | 2   |
| Hydrocele fluid   | -                  | - | - | - | 1   |
| Nasal secretions  | -                  | - | - | - | 2   |
| Stools  | -                  | - | - | - | 51  |
| do.   | -                  | - | - | - | 83  |
| do.   | -                  | - | - | - | 166 |
| do.   | -                  | - | - | - | 2   |
| do.   | -                  | - | - | - | 1   |
| Smear preparations from spleen, buboes, liver and lungs | -                  | - | - | - | 9   |
| Sputum  | -                  | - | - | - | 1   |
| do.   | -                  | - | - | - | 720 |
| do.   | -                  | - | - | - | 1   |
| Swabbing of throat                                      | -                  | - | - | - | 5   |
| Urethral discharge                                      | -                  | - | - | - | 38  |
| Vaginal do.   | -                  | - | - | - | 4   |
| Urine sediment  | -                  | - | - | - | 1   |
| do.   | -                  | - | - | - | 47  |
| do.   | -                  | - | - | - | 3   |

NON BACTERIOLOGICAL

|  |   |   |   |   |     |
|--|---|---|---|---|-----|
| Differential count of white blood corpuscles   | - | - | - | - | 6   |
| Enumeration of do.   | - | - | - | - | 1   |
| Microscopical examination of urine sediments   | - | - | - | - | 100 |
| Qualitative analyses of urine for candidates examined by the Medical Board and for employment in the Civil Service | - | - | - | - | 268 |
| Quantitative analyses of urine   | - | - | - | - | 478 |

SUMMARY OF RADIUM APPLICATIONS DURING 1924--CIVIL HOSPITAL.

| No.  | Diseases   | No. of applications | Result  |
|------|--|---------------------|---|
| 1.—  | Rodent ulcers of forehead, superciliary ridge and nose | 35                  | Cured <sup>(a)</sup>                              |
| 2.—  | Rodent ulcer of face                                   | 29                  | do. <sup>(a)</sup>                                |
| 3.—  | Verrucae vulgaris of nose                              | 14                  | do. <sup>(a)</sup>                                |
| 4.—  | Rodent ulcer of nose                                   | 8                   | do. <sup>(a)</sup>                                |
| 5.—  | do. cheek  | 21                  | do. <sup>(a)</sup>                                |
| 6.—  | Epithelioma sub-lingual                                | 77                  | Still under treatment <sup>(a)</sup>              |
| 7.—  | Rodent ulcer of cheek                                  | 10                  | Cured <sup>(a)</sup>                              |
| 8.—  | Carcinoma of rectum                                    | 4                   | Not improved <sup>(b)</sup>                       |
| 9.—  | do. jaw  | 8                   | Not turned up after 8 applications <sup>(a)</sup> |
| 10.— | Rodent ulcer of mastoid                                | 11                  | Cured <sup>(a)</sup>                              |
| 11.— | Epithelioma of tongue                                  | 27                  | do. <sup>(a)</sup>                                |
| 12.— | Rodent ulcer of nose                                   | 8                   | do. <sup>(a)</sup>                                |
| 13.— | Carcinoma of jaw                                       | 60                  | Still under treatment <sup>(b)</sup>              |
| 14.— | Rodent ulcer of cheek                                  | 11                  | Cured <sup>(a)</sup>                              |
| 15.— | do.  | 19                  | do. <sup>(a)</sup>                                |
| 16.— | Rodent ulcer of nose                                   | 7                   | do. <sup>(a)</sup>                                |
| 17.— | Carcinoma of cervix                                    | 12                  | Improved <sup>(b)</sup>                           |
| 18.— | Epithelioma (Ing. femoral)                             | 8                   | Not improved <sup>(b)</sup>                       |
| 19.— | Epithelioma of tongue                                  | 16                  | Operated after improvement <sup>(b)</sup>         |
|      | Carried over   | 385                 |   |

<sup>(a)</sup> Means outdoor.

<sup>(b)</sup> Means indoor.



## SUMMARY OF RADIUM APPLICATIONS DURING 1924—CIVIL HOSPITAL.—(Continued.)

| No.                       | Diseases                   | No. of applications | Result  |
|---------------------------|----------------------------|---------------------|---|
| —                         | Brought forward            | - 385               |   |
| 20.—                      | Rodent ulcer of forehead   | - 13                | Cured <sup>(a)</sup>                              |
| 21.—                      | do. cheek                  | - 18                | do. <sup>(a)</sup>                                |
| 22.—                      | do. nose                   | - 7                 | do. <sup>(a)</sup>                                |
| 23.—                      | Epithelioma of lip         | - 6                 | Operated after improvement <sup>(a)</sup>         |
| 24.—                      | Carcinoma of jaw           | - 7                 | Not improved <sup>(b)</sup>                       |
| 25.—                      | do. tongue                 | - 29                | Still under treatment <sup>(b)</sup>              |
| 26.—                      | Sarcoma of jaw             | - 7                 | Improved <sup>(b)</sup>                           |
| 27.—                      | Nævus of nose              | - 9                 | do. <sup>(b)</sup>                                |
| 28.—                      | Rodent ulcer of cheek      | - 12                | do. <sup>(a)</sup>                                |
| 29.—                      | Verruces vulgaris of cheek | - 5                 | Cured <sup>(a)</sup>                              |
| 30.—                      | Melanolic sarcoma (back)   | - 8                 | Operated <sup>(b)</sup>                           |
| 31.—                      | Rodent ulcer of forehead   | - 5                 | Cured <sup>(a)</sup>                              |
| 32.—                      | Carcinoma of cheek         | - 12                | Still under treatment <sup>(b)</sup>              |
| 33.—                      | „ cervix                   | - 2                 | Improved <sup>(b)</sup>                           |
| 34.—                      | „ jaw                      | - 3                 | Not turned up after 3 applications <sup>(a)</sup> |
| Total No. of applications |                            | - 528               |   |

## VII.—Sanitation

## SOIL SANITATION AND CONSERVANCY

The Soil Sanitation Campaign has been pushed on very energetically throughout the year 1924.

New regulations embodying the main requirements of premises with regard to latrines (excluding those provided with septic tanks; and in the case of Port Louis, those already provided with the water-carriage system) were published in December, 1924 under Government Notification No. 297. They apply to the whole island.

The following table showing the position as on the 31st December 1924 is a good picture of the work hitherto accomplished by this department towards the prevention of soil pollution.

| District                     | Pit Latrines |               |                            |                 | Pail Latrines |               |                            |                 | Total        |               |                            |                 |
|------------------------------|--------------|---------------|----------------------------|-----------------|---------------|---------------|----------------------------|-----------------|--------------|---------------|----------------------------|-----------------|
|                              | No. required | No. completed | No. started but incomplete | No. not started | No. required  | No. completed | No. started but incomplete | No. not started | No. required | No. completed | No. started but incomplete | No. not started |
| Port Louis ...               | 649          | 636           | 13                         | ..              | 3,233         | 265           | 5                          | 2,963           | 3,882        | 901           | 18                         | 2,963           |
| Pamplemousses ..             | 4,388        | 3,920         | 55                         | 413             | 217           | ...           | ...                        | 217             | 4,605        | 3,920         | 55                         | 630             |
| Rivière du Rempart ...       | 2,342        | 1,031         | 699                        | 612             | 965           | ...           | ...                        | 965             | 3,307        | 1,031         | 699                        | 1,577           |
| Grand Port, Rose Belle ...   | 3,023        | 2,971         | 6                          | 46              | 343           | 341           | ...                        | 2               | 3,366        | 3,312         | 6                          | 48              |
| Grand Port, Mahébourg ...    | 2,124        | 2,086         | 10                         | 28              | 272           | 259           | ...                        | 13              | 2,396        | 2,345         | 10                         | 41              |
| Savanne ...                  | 2,940        | 2,641         | 40                         | 259             | 873           | 786           | ...                        | 87              | 3,813        | 3,427         | 40                         | 346             |
| Black River (Section worked) | 686          | 300           | ...                        | 386             | ...           | ...           | ...                        | ...             | 686          | 300           | ...                        | 386             |
| B. Bassin-R. Hill-Q. Bornes  | 3,478        | 2,823         | 362                        | 293             | 315           | ...           | ...                        | 315             | 3,793        | 2,823         | 362                        | 608             |
| Vacoas-Phoenix ...           | 2,000        | 224           | 165                        | 1,611           | ...           | ...           | ...                        | ...             | 2,000        | 224           | 165                        | 1,611           |
| Moka ...                     | 2,333        | 2,327         | 5                          | 1               | 1,819         | 1,819         | ...                        | ...             | 4,152        | 4,146         | 5                          | 1               |
| Total ...                    | 23,963       | 18,959        | 1,355                      | 3,649           | 8,037         | 3,470         | 5                          | 4,562           | 32,000       | 22,429        | 1,360                      | 8,211           |

In the district of Flacq the campaign was started on an intensive scale in the latter part of December 1924. The sanitation of the parts of Black River district which are fairly inhabited viz the Petite Rivière and Bambous areas and vicinity has been attended to already and the campaign is gradually being extended to the remaining parts of the district.

In Chapter IV, under Ankylostomiasis, reference has already been made to the subject and to the comparatively large response the lower classes have made to the efforts of the Medical Department to prevent soil pollution, mainly by the use of latrines of approved type.

It follows from the figures furnished (cf. page 25—Chapter IV) that estates are behind progress.

This leads one to think that sufficient persuasion and control are not exercised by the managing staff on estates. On the other hand the apparent indifference might be ascribed to the fact that estates only are exempted from the payment of the sanitary rate and it is well known that people do not appreciate what they do not have to pay for.

<sup>(a)</sup> Means outdoor.<sup>(b)</sup> Means indoor.



The hamlet of Crève Coeur (in the district of Pamplémousses) where neither pit nor pail latrines would have been practicable, was at the end of the year, to be provided with concrete vault sanitary privies.

After many experiments had been carried out in respect to pail latrine contrivances, with a view to selecting the best type, a fly-proof concrete box, rendered in cement with concrete flooring and on the top, a slab with a diamond-shaped aperture, was adopted as standard.

Metal pails have been supplied on a large scale and it is expected to substitute, at an early date, metal pails for a few wooden tubs still in use.

The Night Soil service is performed by Government in Port Louis, Curepipe, Rose Belle-New Grove-Mare d'Albert and Mahébourg. In other places the service is performed by contractors responsible towards the Medical & Health Department except in the cases of Beau Bassin-Rose Hill and Quatre Bornes townships. The contractors are chosen by and responsible to the respective Board of Commissioners in the latter cases.

The last Engrais at work in Mauritius has been finally closed.

Where the method of disposal is not by means of septic tanks, as for the eastern part of Port Louis (Paul & Virginia Street septic tank) and for Curepipe or by tipping in the main sewer (Tipping Chamber, Cassis) for part of Port Louis, deep trenching is adopted.

In the reports of the various local Sanitary Authorities (Appendices I-IV) the local aspects of the question are explained.

Pit latrines are not dug when any possibility of pollution of sub-soil water is foreseen. In every case the site is chosen by the local Sanitary Authority or with his approval.

Mainly through the misuse of the fly-proof covers provided, several pit latrines were found to form fly-breeding places. Experiments with different substances were accordingly carried out by Dr. G. Léclezio, Dr. G. Masson and the Director with a view to obviating the fly nuisance. It was finally considered that crude oil was the cheapest and best agent to prevent fly-breeding in the pits. Following on that conclusion, the Medical Department organized a service for the systematic periodical oiling of pit latrines everywhere except on Estates, in which case the oiling is done by the estate personnel.

Septic tanks for individual premises have been installed in recent years on several premises in the principal townships of Plaines Wilhems, particularly Curepipe and in a few cases in other districts e.g. Moka.

The water carriage system of Port Louis has received the constant and special attention of the Public Works Department during the past year.

The Drainage staff has been strengthened with a view to giving effect to Mr. Mansergh's scheme.

The work on the main sewerage scheme progressed steadily during the year.

The night soil deposited into the main sewer at the Tipping Chamber, Cassis, has been conveyed to sea direct. The discharge is at a point 810 feet from high water mark and has not been the cause of any complaint.

About 1,300 premises in the central and western parts of Port Louis are connected with the water carriage system. They were regularly inspected in 1924.

During the year, 625 notices were served by the Sewerage Inspectors (of the Public Works Department) in respect of defective drainage apparatus and in 3,500 cases defects complained of were remedied.

The maximum power of the pumping station being fully employed with the existing connections, no extensions are usually made for the present.

Bell Village and the Technical school were connected with the system during the year under review.

It is hoped that the Sewerage scheme for the Beau Bassin-Curepipe area will be carried out without further delay.

#### SCAVENGING.

Scavenging service is performed by Government in Port Louis, Curepipe, Rose Belle-New Grove-Mare d'Albert and Mahébourg. In other localities the service is entrusted to contractors responsible to the Medical and Health Department except for the townships of Beau Bassin, Rose Hill and Quatre Bornes, in which cases the respective Board of Commissioners chooses the Contractor. The refuse is mostly disposed of by burning. In a few cases it has served to fill in hollows and marshes, thus getting rid of mosquito-breeding places at cheap, if any cost.

The service has not been constantly satisfactory in the case of contractors.



The enforcement of the regulations relative to the provision of dust-bins in Port Louis and the three towns in Plaines Wilhems district has allowed of further improvement in the sanitary conditions of dwellings in those towns and relieved the public service of obligations concerning private individuals.

It is a remarkable fact that the population previously mostly unused to scavenging, has, in general, grasped with readiness that sanitation means health. It may be said that Mauritius, as evidenced by newspapers' reports, has developed a sanitary conscience. On my arrival in the Colony in 1921, I constantly heard it said that the lower classes would revert to their dirty yards and habits.

Many joint inspections have been made during the year by the Director, Ankylostomiasis Campaign, the Sanitary Warden (South) and the Medical Director. It was gratifying to find in the large majority of cases that the very people who were condemned were living up to the desired standard and that they had responded readily to sanitary enterprise and co-operated with the Health Department in the campaign against dirt and disease.

#### WATER-SUPPLY.

The water-supply of Port Louis is derived from Grand River North West and Bathurst Canal. Government establishments and some private firms and buildings are provided with Mare-aux-Vacoas water. The first two supplies of water are unfit and unsafe. It is hoped that the Chlorination Plant under erection at Pailles, in the bed of Grand River N. W. will soon start working and that filtered chlorinated water will be substituted to the crude, impure water that 95% of the inhabitants of Port Louis are obliged to consume.

During part of the year under review there were complaints of insufficiency of supply in the case of water from Grand River North West. The matter was attended to by the Public Works Department.

In Pamplémousses, the supply from canals and rivers (Calebasses River included) is of suspicious quality but that from Le Plessis and Bassin Loulou springs is good and the water drawn from wells is of fair quality. The hamlet of Triolet is provided with a piped supply from a pumping station at St. André well.

Rivière du Rempart has good supplies from caves and wells except those derived from canals and rivers which are bad.

In populous hamlets in Flacq district, the supply is of fair quality, derived from River Dubois and Rivulets Jamblon and Monneron. In out of the way localities, the water is drawn from wells, springs and rivers and is generally not good.

In Grand Port, the supply from Bé-Manique River is good but has proved inadequate and on several occasions has flowed intermittently. Water derived from wells, springs, Rivulet Délices and River des Créoles is of fair quality, but in other cases it is very bad e. g. the supply of Old Grand Port, Grand Sable and Petit Sable.

In Savanne, Rivers des Anguilles and Patate and other rivers, with wells and canals, constitute the principal sources of water supply. The pipe supplies of Chemin Grenier and Souillac have proved inadequate during the dry season. Most of the wells and springs supplying water are liable to pollution and the water is bad.

In his report (Appendix IV), the Sanitary Warden (South) mentions the serious difficulties encountered by the inhabitants of Mahébourg with regard to the supply of water, as also those of Chemin Grenier, in the district of Savanne. It is to be hoped that a similar state of matters will not be allowed to recur.

In Black River, the public fountains supply fairly good water but the water from rivers, wells and canals is liable to pollution during heavy rain. At Bambous and Clarens, the supply has been improved by the provision of additional public fountains. At Chamarel, springs and rivers afford a good supply and indigenous water-borne diseases have been unknown for years in the locality.

Cascavelle and Flic-en-Flac are in urgent need of a reliable water-supply; unwholesome water is now generally consumed in these localities.

As regards the domestic water-supply, the districts of Plaines Wilhems and Moka, using mostly the Mare-aux-Vacoas water, have the best supply possible.

In the extra-urban area of Plaines Wilhems and in the upper parts of Moka district, the supply is derived from wells and rivers and is not good in most cases.

The fact that the water supply is a most important factor towards the health of a community is now almost universally realized in Mauritius. The various District Boards have taken the question in hand and the water supplies of country districts are being largely improved and extended mostly by piped supplies from pure sources or unpolluted springs and rivers.



Some of the extensions and improvements recently completed, or under execution during 1924 are shown in the list hereunder :—

| Particulars  | District           |
|--|--------------------|
| Palma water supply - - - - -                         | Black River        |
| Bambous „ - - - - -                                  | „                  |
| Summerfield „ - - - - -                              | Plaines Wilhems    |
| Vallée des Prêtres water supply - - - - -            | Port Louis         |
| Grand River S.E. „ - - - - -                         | Flacq              |
| Malakoff-Mare d'Albert „ - - - - -                   | Grand Port         |
| Bois des Amourettes Reservoir and fountain - - - - - | Grand Port         |
| Souillac water supply - - - - -                      | Savanne            |
| L'Escalier „ - - - - -                               | Grand Port         |
| Grand Bay „ - - - - -                                | Rivière du Rempart |
| Pamplemousses water supply - - - - -                 | Pamplemousses      |
| Quartier Militaire „ - - - - -                       | Moka               |
| Grand Gaube „ - - - - -                              | Rivière du Rempart |
| Providence-Fountain at - - - - -                     | Moka               |
| Bambous (Extension of) water supply - - - - -        | Black River        |
| Flacq (district) „ - - - - -                         | Flacq              |
| Grand Port „ - - - - -                               | Grand Port         |
| Camp Diable „ - - - - -                              | Savanne            |
| Chemin Grenier „ - - - - -                           | „                  |
| Sottise „ - - - - -                                  | Rivière du Rempart |
| Calebasses infirmary „ - - - - -                     | Pamplemousses      |
| Moka (district) „ - - - - -                          | Moka               |

Various amounts have also been recently voted for the water-supplies of the localities mentioned hereunder :—

|   |                    |
|---|--------------------|
| Goodlands - - - - -                                   | Rivière du Rempart |
| Camp Ythier and Flacq Railway Station - - - - -       | Flacq              |
| St. Martin, Bois Chéri and Grand Bois - - - - -       | Savanne            |
| Camp Fouquereaux, Mesnil and Allée Brillant - - - - - | Plaines Wilhems    |

The monthly examination of Mare-aux-Vacoas water by the Government Analyst revealed slight but unusual variations in the degree of purity of the water.

The results point to the necessity for sustained attention to the filter beds, the process of filtration and particularly the rate of filtration. These matters have received the prompt and special consideration of the Director of Public Works.

#### ANTI-MALARIAL WORKS

The anti-malarial works of importance, undertaken during the year are shown hereunder :—

|  | District        |
|--|-----------------|
| Drain Bell Village - - - - -                               | Port Louis      |
| „ Plaine Lauzun - - - - -                                  | „               |
| Filling in marshes—Pointe d'Esny - - - - -                 | Grand Port      |
| „ „ —Rivière du Poste(Providence) - - - - -                | Flacq           |
| Repairs to Plaines Wilhems Canal - - - - -                 | Plaines Wilhems |
| Drainage of marshes—Curepipe Old Slaughter House - - - - - | „               |
| Drainage around Candos hill - - - - -                      | „               |

In his report (Appendix VIII) the Sanitary Engineer mentions the various anti-malarial works carried out with his co-operation or under his supervision.

The reports of the Medical Officers of Health and Sanitary Wardens, Appendices I—IV, deal in detail with the anti-malarial works in the various districts.

The work has consisted mainly in the maintenance of existing works, repairing of damage done by animals and floods, clearing of marshy lands, filling up of quarry pits and weedy pools and ponds, planting of grass in former river or stream beds and petrolisation of large marshes.

The staff of trained moustiquiers did good work in the search of mosquito-breeding places all over the island.

Reference has been made under Malaria, in Chapter IV, to the Malaria Campaign it has been proposed to carry out with a view to the eradication of malaria from the Colony.

#### RIVER RESERVES

Dr. Mac Gregor's report on the Anophelinae of Mauritius and on certain aspects of Malaria in the Colony was received during the year. It was thereupon decided to cancel all agreements entered into with riparian owners relative to the cultivation of sugar-canes in River Reserves. Action has already been taken in this respect.



The necessity of buying river reserves in certain specific cases has been concurrently recognized. As occasion arises formal action will be taken in this direction.

The cleaning of reserves overgrown with noxious trees and their re-stocking with quick-growing, shade-bearing trees is carried on as a routine measure. But the means at the disposal of the department are insufficient to allow of attention being given to every case coming under notice.

### SCHOOLS

The Government and State Aided Primary Schools are, as a rule, visited at least twice during the year by the Health Officers. The average district spleen-rates for 1924 are given in Chapter IV, under Malaria.

In Port Louis, the inspection of schools is made on methods devised by Dr. A. Balfour and the present Director. The report of the Medical Inspector is given in Appendix VII. The same methods are being gradually extended to the other districts. The report on the schools in Plaines Wilhems is given in Annexure 9 to Appendix II, the report by the Medical Officer of Health for Plaines Wilhems.

In Flacq district also a start has already been made.

The blood-examination of school pupils in respect to malarial parasites is also regularly performed by a trained microscopist. The findings of the tests made during 1924 have also been shown under Malaria, in Chapter IV.

As a general rule, the school buildings are buildings which were not constructed for the purpose they are now used for. The school latrines, as a result of the Soil Sanitation Campaign, are in several districts good and generally well upkept, but there still remain numerous cases where improvements are urgently needed.

### CONTRAVENTIONS AND PROSECUTIONS

The number of contraventions detected by the Sanitary Officers in 1924 is 5,299. They gave rise to 2,032 prosecutions resulting in fines amounting to Rs. 7,771.40.

23,536 notices, orders and requests were served under the various sanitary ordinances and regulations. Of these, 3,311 were not complied with and led to 2,608 prosecutions. The fines inflicted amounted to Rs. 9,096.65.

### MARKETS, ABATTOIRS AND CEMETERIES

#### MARKETS

Government runs two markets: one at Mahébourg and the other at Pamplémousses village. The latter is scarcely used, as the existing regulations do not prohibit fish hawking, vegetable selling and the opening of meat-shops outside and in the immediate neighbourhood of the market.

A third market situated at Central Flacq was almost complete at the end of the year and is to be opened at an early date in 1925.

The revenue derived from the markets was as under, showing a decrease of Rs. 318.65, compared with 1923:—

| Markets       |   |   |   | Revenue      |              |
|---------------|---|---|---|--------------|--------------|
|               |   |   |   | 1923         | 1924         |
| Pamplémousses | - | - | - | Rs. 17.25    | Rs. 21.30    |
| Mahébourg     | - | - | - | 2,220.20     | 1,897.50     |
| Total         | - | - | - | Rs. 2,237.45 | Rs. 1,918.80 |

#### ABATTOIRS

The Medical and Health Department manages three (3) Abattoirs viz. Mahébourg, Souillac and Pamplémousses. The revenue derived from them was as under, showing an increase of Rs. 897.50, as compared with 1923:—

| Abattoir      |   |   |   | Revenue      |              |
|---------------|---|---|---|--------------|--------------|
|               |   |   |   | 1923         | 1924         |
| Pamplémousses | - | - | - | Rs. 1,121.00 | Rs. 1,235.00 |
| Mahébourg     | - | - | - | 1,498.00     | 2,293.50     |
| Souillac      | - | - | - | 1,140.00     | 1,128.00     |
| Total         | - | - | - | Rs. 3,759.00 | Rs. 4,656.50 |



The table hereunder shows the number of cattle and other animals slaughtered and seizures made in 1924 at the various slaughter houses of the Colony.

| Slaughter House                                 | No. of animals slaughtered |               |        | No. of seizures made       |
|---|----------------------------|---------------|--------|----------------------------|
|   | January-May                | June-December | Total  |                            |
| Port Louis (Municipal) <sup>(a)</sup> ...       | 4,807                      | 7,573         | 12,380 | 47                         |
| Pamplemousses <sup>(a)</sup> ...                | 217                        | 279           | 496    | .....                      |
| Flacq { Central Flacq <sup>(b)</sup> ...        | 262                        | 426           | 688    | 3 (12 partial in addition) |
| { St. Julien <sup>(b)</sup> ...                 | 39                         | 52            | 91     | 1 ( 2 partial in addition) |
| Grand Port { Mahébourg <sup>(a)</sup> ...       | 526                        | 655           | 1,181  | 13 (partial)               |
| { Rose Belle <sup>(b)</sup> ...                 | 270                        | 445           | 715    | .....                      |
| Savanne { Riv. des Anguilles <sup>(b)</sup> ... | 40                         | 64            | 104    | .....                      |
| { Souillac <sup>(a)</sup> ...                   | 170                        | 291           | 461    | 5 (partial)                |
| Black River—Bambous <sup>(b)</sup> ...          | 37                         | 100           | 137    | 6 (partial)                |
| Pl. Wilhems { Rose Hill <sup>(a)</sup> ...      | 3,004                      | 3,543         | 6,547  | 56 (1 partial in addition) |
| { Curepipe <sup>(c)</sup> ...                   | 1,590                      | 1,853         | 3,443  | 3                          |
| Moka—St. Pierre <sup>(b)</sup> ...              | 282                        | 476           | 758    | 3 (9 partial in addition)  |
| Whole Colony ...                                | 11,244                     | 15,757        | 27,001 | .....                      |

## CEMETERIES.

The public cemeteries under the direct charge of the Medical and Health Department total 19, distributed as under.

The fees collected show an increase of over Rs. 100 as compared with 1923.

| District and Sanitary Section     | No. of Govt. cemeteries | Revenue   |           | Remarks                              |
|-----------------------------------|-------------------------|-----------|-----------|--------------------------------------|
|                                   |                         | 1923      | 1924      |                                      |
|                                   |                         | Rs. c.    | Rs. c.    |                                      |
| Pamplemousses ...                 | 1                       | 3,865.00  | 3,746.50  |                                      |
| Rivière du Rempart ...            | 3                       | 1,488.00  | 1,584.50  |                                      |
| Flacq ...                         | 3                       | 1,937.00  | 261.00    | Northern Section<br>Southern Section |
|                                   |                         |           | 1,743.50  |                                      |
| Grand Port—Rose Belle Section ... | 1                       | 1,488.00  | 1,392.00  |                                      |
| do. Mahébourg do. ...             | 1*                      | 839.00    | 632.00    | * Plus one closed at Old Grand Port. |
| Savanne ...                       | 3                       | 2,186.50  | 2,157.00  |                                      |
| Black River ...                   | 3                       | 640.00    | 1,004.00  |                                      |
| Plaines Wilhems—Beau Bassin—      |                         |           |           |                                      |
| Rose Hill—Q. Bornes               | 1                       | 842.00    | 761.00    |                                      |
| do. —Phoenix—Vacoas ...           | 1                       | 2,564.00  | 2,752.16  |                                      |
| Moka ...                          | 2                       | 1,263.00  | 1,180.00  |                                      |
| Total...                          | 19                      | 17,112.50 | 17,213.66 |                                      |

Two new cemeteries were nearing completion at the end of the year : one at Union Park, the Rose Belle cemetery and the other at Brisée Verdière, in the district of Flacq. It is expected that they will be opened in the earlier part of 1925 on being handed over by the Public Works Department.

## MISCELLANEOUS.

*Sanitary condition of Eating Houses, Restaurants, Bakeries and other places where food is prepared for sale.*—During the year the Director made extensive inspections of Eating Houses, Restaurants, Bakeries etc. He found almost without exception that the existing condition was far from satisfactory, both structurally and also from a sanitary point of view, whilst the manner in which foodstuffs are stored, prepared for sale and offered for consumption is, to say the least, highly undesirable.

It may be argued that the sanitary shortcomings are capable of improvement and of being raised to a reasonable standard of decency by the application of educative effort but the structural defects that were found so frequently and over which the Medical & Health Department have no control prevent cleanliness. It is highly desirable first of all to have such premises suitably constructed, lighted and ventilated in such a manner before one can hope for a measure of success.

<sup>(a)</sup> Public abattoirs.

<sup>(b)</sup> Private abattoirs.

<sup>(c)</sup> Curepipe is now provided with a public abattoir which will be opened in the near future.



During the visits in Port Louis, the various townships and rural areas, attention was paid to the cardinal points usually observed on such inspections but the impression gathered was apparent apathy and ignorance of the traders in failing to observe the rudimentary principles of sanitation.

In many cases it was borne out that poverty too often plays an important part in those insanitary conditions, sleeping and living rooms being screened off from the dining rooms, in which the food is stored, prepared for sale and consumed, by a single sheet of sacking.

In other instances, ignorance was responsible for the dirty manner in which food is handled. Premises were found where confectionery is prepared, having a bedroom directly communicating with it and at the same time the vent pipe of a pail latrine attached.

Much consideration has been given to these subjects in order to combat this state of affairs and to ensure firstly that all eating houses should be structurally fitted for the purpose they serve. In 1922 the Director submitted a scheme to Government whereby, before granting a licence, a fixed standard and a constructive policy should be laid down, and the question of having a licensing committee or Court to deal with all such cases before a licence should be given.

#### DRAFT REGULATIONS.

During the year 1924, regulations dealing with a pure Milk supply and bye-laws dealing with the preparation and sale of milk were submitted, as also regulations for Bakeries, Ice and Aerated water factories.

### VIII.—Training and Education.

#### SANITARY STAFF

The classes of instruction which were started 2 years ago have been well maintained. Much time has been devoted to the training of the Junior Staff. Regular classes of instruction were held by the Sanitary Warden for the Southern districts and the Medical Officers of Health for Port Louis and Plaines Wilhems. The control and prophylaxis of infectious diseases, the principles of disinfection, the alleviation of nuisances, elementary drainage and Malaria were among the principal subjects dealt with. The work was based on the syllabus of subjects for examinations for the Sanitary Inspector's certificate of the Royal Sanitary Institute (England).

Emphasis was laid on the more important branches of current work and every endeavour was made to render each employé familiar with his routine duties.

The Government Veterinary Surgeon\* delivered a course of lectures on Meat Inspection to all Inspectors and Guards. Lectures and cinema demonstrations on Hookworm, Malaria, The Plague Menace were given by the Director, Ankylostomiasis Campaign.

Lectures on the elementary mathematics of hygiene were given by Chief Inspector Purvis. That important branch of sanitary work hitherto neglected in Mauritius should bear good results in the future when Sanitary Inspectors and Guards will have at least some idea of the practical application of their knowledge which is the minimum that Medical Officers of Health and Sanitary Wardens can be expected to accept.

In September 1924 an examination for the certificate of competency as Sanitary Inspector was held under the auspices of the Royal Sanitary Institute (England).—13 candidates presented themselves of whom 3 were succesful. (cf Appendix X)

The utmost credit is due to these 3 Inspectors and it is hoped that in the near future every Inspector will qualify and obtain that certificate which is recognized by Government Authorities in the Overseas Dominions. It should be a *sine qua non* condition before promotion is given that officers should be able to produce a certificate of that kind.

The healthy rivalry which exists between the Medical Men in charge of the various sections of the island augurs well and it is hoped that the system that has existed hitherto of promotion without reference to zeal and ability will become a thing of the past.

#### NURSING STAFF.

During 1924, 24 students (16 males, 8 females) were admitted into hospitals for training as Warders and Dispensers and Nurses.

2 female students resigned during the year and one male student was dismissed.

On the 31st December 1924, the number and distribution of students undergoing training was as under :—

| Hospital    | Males | Females | Total |
|-------------|-------|---------|-------|
| Civil       | 6     | 3       | 9     |
| Poudre d'Or | 1     | 1       | 2     |
| Flacq       | 4     | ...     | 4     |
| Mahébourg   | 5     | 2       | 7     |
| Souillac    | 1     | 1       | 2     |
| Victoria    | 9     | 5       | 14    |
| Moka        | 3     | 3       | 6     |
| Total       | 29    | 15      | 44    |

\* Attached to Department of Agriculture.



With a view to recruiting a better class of students, new regulations were drafted and subsequently published under G. N. No. 10 of the 17th January, 1925. At the same time to attract the desired class of students, an allowance has been provided in the estimates of this Department as from the 1st July 1924. The allowance is at the rate of Rs. 240 p.a. for the 1st year of training and Rs. 360 for the 2nd year (the ordinary course of training is 2 years).

Provision has accordingly been made for allowances to 92 students up to 31st December, 1924 and to 98 as from 1st January, 1925. It is hoped that these privileges will be fully availed of in the near future.

The result of the examinations held in 1924 is given in Appendix X.

The training of Midwives has been fully reported upon in Chapter III, Midwifery and Child Welfare.

14 pupil-midwives were undergoing training on the 31st December 1924, 7 at the Civil and 7 at Victoria Hospital.

#### HYGIENE LECTURES TO TEACHING STAFF OF PRIMARY SCHOOLS

In 1924, about 100 members (of both sexes) of the Teaching Staff of Primary Schools attended the series of lectures on hygiene which is delivered every year.

15 lectures in all were delivered, in the hall of the Civil Hospital, in the period extending from February to June.

At the end an examination was held and 60% of the competitors secured a pass certificate.

The course of lectures for 1925 will be delivered at Curepipe by the Director of the Medical and Health Department.

During the year, special attention has been directed towards instructing the teaching staff about Hookworm, Plague and Malaria, the means by which these diseases are spread and the personal and general measures that should be taken to avoid infection.

Valuable work has been done since the department has received the cinema films "The Rat Menace," "Malaria," "Swat that Fly" and "Hookworm."

#### LECTURES ON "FIRST AID TO THE INJURED"

During the year, Dr. Barbeau, Superintendent of the Bacteriological Laboratory, delivered a series of lectures on "First Aid to the Injured" to several members of the Traffic Branch and Plaine Lauzun workshop of the Railway Department, as was previously done for members of the Police Force.

### IX.—The Civil Medical Stores.

The following tabular statement summarises the transactions of the Medical Stores during the year 1924.

|   |     |     |
|---|-----|-----|
| 1. Cost of drugs, chemicals, instruments &c. and repairs to instruments and appliances &c.  | Rs. | c.  |
| ...   | ... | ... |
| 2. Value of drugs, chemicals, instruments &c. issued to Government Institutions   | ... | ... |
| ...   | ... | ... |
| 3. Value of disinfectants, sera, vaccine &c issued in connection with plague and other contagious diseases  | ... | ... |
| ...   | ... | ... |
| 4. Amount realised by sale of medicines, vaccine and sera to private medical practitioners and value received for loss and damage to instruments issued to Institutions | ... | ... |
| ...   | ... | ... |
| 5. Quantity of quinine issued   | ... | ... |
| ...   | ... | ... |
| 6. Cost of quinine issued   | ... | ... |
| ...   | ... | ... |
| 7. Institutions to which drugs in general are issued :  |     |     |
| Hospitals   | ... | 12  |
| Dispensaries  | ... | 29  |
| Charitable Institutions   | ... | 10  |
| Schools   | ... | 128 |
| Police Stations   | ... | 54  |
| Government Institutions   | ... | 15  |

No difficulty was experienced in getting supplies at regular intervals. As much as possible of the drugs, chemicals &c. required is ordered from outside the Colony, thus reducing to the extreme limit the needs for purchases on the local market.

### X.—Administration.

Appendix IX is a list of the Senior Medical Staff of the Department.

Dr. T. B. Gilchrist proceeded on leave to South Africa on the 10th April, 1924 and was replaced by Dr. F. J. R. Momplé, Assistant Director. He resumed his duties on the 2nd June. During his leave, the Medical Director attended, as delegate for Mauritius, a Medical Congress held at Grahamstown. The congress lasted 10 days. The Director also made various investigations relating to medical and sanitary matters at issue in Mauritius.



Dr. M. S. H. Camal Boudou, Government Medical Officer for Pamplémousses died on the 17th July 1924.

The post of Government Medical Officer left vacant is provisionally filled by Dr. J. H. André.

Dr. L. Vinson, provisionally re-employed, acted as Superintendent, Mental Hospital, until Dr. Dyson assumed duty on the 4th March, 1924.

The post of Assistant Superintendent, Mental Hospital, was re-established and filled provisionally by Dr. R. Laventure, appointed as from 27th November 1924.

Dr. F. L. Keisler, Port Health Officer and Medical Inspector of Port Louis schools, was appointed to be Public Vaccinator for the district of Port Louis as from the 1st May 1924 in the room of Dr. Delaître.

Dr. E. Portal was appointed to act as Commissioner in Lunacy for the district of Plaines Wilhems during the absence from the Colony of Dr. Duvivier.

Dr. A. C. d'Arifat was appointed to be Sanitary Warden as from the 25th January 1924 in the room of Dr. A. L. Castel retired.

Dr. C. Camal Boudou was appointed to be Assistant Director, Ankylostomiasis Campaign as from the 26th March.

The undermentioned Medical Officers were granted leave during the year for the periods stated against their names:

Dr. F. J. R. Momplé, Assistant Director —15th June —31st July.

Dr. G. Léclezio, Govt. Medical Officer Moka—1st Sept- 21st Sept.

(Dr. E. de Robillard acted as Govt. Medical Officer during the absence of Dr. Léclezio).

Dr. E. F. Bour, Govt. Medical Officer Plaines Wilhems:

(i) 25th January-14th February

(ii) 17th August-4th November

(Dr. R. Ythier acted as Government Medical Officer for the first period and Dr. E. Portal for the second period).

Two Indian Medical Officers continued in the employ of Government during 1924. One, Dr. P. C. Sen Gupta, had his appointment terminated from 1.6.24; the agreement with the other lapses in April 1925.

Mr. Naz, Sanitary Engineer, continued to be seconded for work under the Director of the Public Works Department in connection with the erection of the chlorination plant for Grand River North West water supply. Mr. F. J. Parsons of the Survey Office discharged the duties of the office.

The agreements with Sanitary Inspectors Young and Hall were terminated as from 31st May and 10th December 1924 respectively.

Sanitary Inspector Purvis was confirmed Chief Sanitary Inspector as from the 1st September, 1924.

Mr. E. Maya, Assistant Superintendent, Bacteriological Laboratory, returned to the Colony in November 1924. He had been granted study-leave and a scholarship from the Government Scholarship Fund.

Owing to the increased work in the chemistry division of the Bacteriological Laboratory, Mr. R. Avicé du Buisson, Laboratory Assistant at the Bacteriological Laboratory, Réduit, has been designated to perform chemical analyses of foodstuffs for Government departments.

The agreement between the Overseas Nursing Association and Government to the effect that the services of the nurses when not required by the Association were to be employed in Victoria Hospital in return for their board and lodging, was terminated in January 1924.

Miss H. Brunning assumed duty on the 1st April, 1924, as Matron, Civil Hospital.

An additional Civil Status office has been established at Victoria Hospital, in the district of Plaines Wilhems, for the registration of births, marriages *in articulo mortis* and deaths taking place at the hospital.

Three Officers were dismissed during the year, as under:—

1 Sanitary Guard; 1 Hospital Warder and 1 Store Clerk.

## XI.—Miscellaneous.

### GENERAL CONSIDERATIONS

In reviewing the work carried out during the year by the Medical and Health Department, it is my pleasant duty to render homage to every member of the staff for their loyal and faithful support. The year has indeed been a most trying and onerous one.



The unenviable position which Mauritius held up to 3 or 4 years ago and the scathing remarks of Dr. Andrew Balfour in his interim and final reports were well merited, but it is gratifying to remark that many of the reproaches formerly justified are now showing signs of disappearance.

Port Louis, although a slum town as far as buildings and overcrowding are concerned, has now assumed a better aspect ; even the most sceptical will admit that.

There is every appearance of cleanliness in the streets and yards, even in the humblest abode and it may be claimed that the city is as clean as any provincial town in England.

As regards the other townships and villages there is evidence of a sanitary conscience having arisen and it is pleasing to see that throughout the island the population has benefited in its customs and habits.

On my arrival in Mauritius, the first step was to clean up Port Louis ; this was done. Reorganization of the Department occupied a considerable time. The training of the staff was a difficult and tedious work but thanks to the cooperation of the staff, they have begun to realize the responsibility of their duties and they have made an honest endeavour to adapt themselves to the new conditions.

Once Port Louis was cleaned, the difficulty was to keep it clean and to educate the inhabitants of the necessity of keeping it so. The results have justified the campaign undertaken.

Unfortunately the educated portion of the community apparently do not know and have no idea of the appalling conditions existing in Port Louis.

The year has been one of reorganization and reconstruction. Time is necessary to bring into full operation the intricate system of Health Administration required.

#### ALTERATION IN PERIOD COVERED BY ANNUAL REPORT

The advisability of altering the period covered by the Annual report from the calendar year to the financial year viz. 1st July to 30th June, has been pointed out to Government. The question has been referred to the Secretary of State with a view to obtaining the views of the Colonial Advisory Medical and Sanitary Committee.

The reasons for the change advocated may be summed up as under :—

Diseases in Mauritius fall into Summer and Winter groups and reporting on them for a calendar year splits up the prevalence of the diseases and it is impossible to get a fair index unless the previous Annual report is read jointly with the current one.

Plague in its epidemic form usually starts in August and continues during January and February.

Malaria prevails usually during the period extending from November to May.

#### MILK

During the year the Director, Medical and Health Department submitted to Government a comprehensive scheme with accompanying regulations dealing with the control of conditions in which milk is and should be produced and sold.

These regulations necessitating proper structural conditions could not be dealt with under present building regulations and a bill has been prepared giving the Sanitary Authority power to deal with buildings. It is hoped that in the near future this bill will become an accomplished fact.

Little or no attempt to secure radical structural improvement of byres has been accomplished. The existing byres are unhealthy, overcrowded and badly ventilated.

#### REVENUE NOT COLLECTED.

The table hereunder shows the *estimated value of certain free services rendered by the Medical and Health Department during 1924* :—

|   |     |     |     |               |
|---|-----|-----|-----|---------------|
| 1. Cost of drugs supplied free to dispensaries and charitable institutions<br>(exclusive of public hospitals) | ... | ... | ... | Rs.<br>29,453 |
| 2. Cost of anti-plague vaccine and sera supplied free   | ... | ... | ..  | 18,452        |
| 3. Cost of quinine issued free  | ... | ... | ... | 19,900        |
| 4. Cost of disinfectants issued free  | ..  | ... | ... | 12,050        |
| 5. Value at tariff rates of free analyses and examinations (Bacteriological<br>Laboratory)                    | ... | ... | ... | 15,095        |
| 6. Value at tariff rates of free radium treatment and X-ray sittings, &c....                                  |     |     |     | 3,315         |
| 7. Value at tariff rates of hospital fees on account of pauper patients<br>treated in general hospitals...    | ... | ... | ... | 315,039       |
| 8. Value at tariff rates of hospital fees on account of pauper patients and<br>inmates of the Mental Hospital | ..  | ... | ... | 154,030       |
| Total ...   |     |     |     | Rs. 567,334   |

T. B. GILCHRIST,  
Director,  
Medical and Health Department.



## APPENDIX 1

## REPORT OF THE MEDICAL OFFICER OF HEALTH, PORT LOUIS.

**Vital Statistics.** The population of the town and district of Port Louis is given by the Registrar General as being 53,215. The Birth Rate was 42.9 per thousand ; the Death Rate 34.6 per thousand.

**Class of Instruction.** This class has been continued throughout the year and is conducted by the M.O.H. and the Chief Sanitary Inspector, while special lectures have been given by the Drainage Engineer. Sixty meetings were held and a series of visits was made to the various places of sanitary interest in the Island.

The average attendance at the lectures has been 30.

**Scavenging Service.** Approximately 9,000 tons assorted refuse was removed from Port Louis during the year. Most of this material has been burnt in the open, but a quantity has been used to fill in hollows which were found to cause mosquito nuisances during the wet season.

**Night Soil Service.** This service has worked comparatively smoothly in spite of the fact that several unforeseen events caused temporary dislocation of the arrangements. The new disposal depot was made available on 23rd October, 1924. This depot, which is situated in Paul and Virginia street, consists of a septic tank 66 feet long, 17 feet broad and 8 feet deep. The tank is constructed throughout of reinforced concrete. A concrete conical funnel on the roof of the tank at one end leads into a detritus chamber.

The funnel is kept clean by means of a flushing rim. The lower end of the funnel is fitted with an iron grid to prevent the entrance of tins, stones and other debris into the detritus chamber. Provision is made for cleaning out the detritus chamber without having to empty the whole tank by having an additional partition constructed between the detritus chamber and the main tank. The partition acts as a retaining wall while the detritus chamber is being pumped out and cleaned.

The tank liquor is distributed on a circular percolating filter bed 37 feet in diameter, through an automatic rotary sprinkler. The filter effluent is led underground to the Trichinapooly stream, a small inspection chamber having been constructed over the effluent channel.

The Trichinapooly stream bed was provided with a cement invert to prevent nuisance from the filter effluent.

The tipping platform is approached from the road by means of a "U" shaped ramp, the apex of the ramp being occupied by a concrete platform on which the carts are washed after each journey. The platform is drained into the detritus chamber of the tank.

Sheds have been erected close to the tank and ramp. These sheds are open and are furnished with concrete floors. They are used for the disinfection, tarring and repair of the night soil buckets and lids. A tar boiler is provided.

When work was first undertaken at this depot a good deal of trouble was experienced on account of rags and paper obstructing the iron grating at the foot of the tipping funnel. This difficulty was overcome by the provision of two light wire strainers. The night soil buckets are now tipped on to the strainer, which keeps back rags and paper but which allows the rest of the bucket contents to pass into the funnel. A constant stream of water is kept playing from a hose over the strainer while the tipping is going on. When the strainer becomes clogged, it is removed and cleaned, the duplicate strainer being put in its place. The rags and papers are stored in metal receptacles and limed and buried each morning.

Until the tank had "ripened" the effluent was deodorised by means of a drip feed placed over the inspection chamber, so that thorough mixing of deodorant and effluent occurred before the mixture entered the stream.

**Domestic latrines** 244 latrines of approved type were completed by the contractor during the year.

**Water Carriage system.** It has not yet been possible to extend the advantages of this system to private premises in the town. The work on the new intercepting sewer has, however, made steady progress.

**Extra-Urban area, Soil Sanitation.** 649 pit latrines were required to complete the soil sanitation work of the extra-urban area in 1924. 636 of that number had been completed by the end of the year.

**Water supply** The Bathurst Canal supply is still the only source of water supply for part of the town.

The chlorination plant and filters for the Grand River North West supply neared completion by the end of the year. The filters have been constructed in duplicate.

**Anti-Malarial work** 234,103 feet of existing drains and channels were upkept during the year.

The Sanitary Inspector of each section of the district is now responsible for the supervision and upkeep of existing works. He is assisted in this work by his Sanitary Guards and by a variable number of cantonniers who carry out the necessary cleaning and oiling.



Two moustiquiers are provided for the district, and their duties are to search for mosquito larvæ and to inform the Sanitary Inspectors of the sections of the occurrence and locality of any mosquito nuisances they may happen to find.

The number of cantonniers employed in the Port Louis district is 28.

They are allotted to the various sections as follows :—

|           |     |        |           |     |       |
|-----------|-----|--------|-----------|-----|-------|
| Section 1 | ... | 14 men | Section 4 | ... | None  |
| „ 2       | ... | None   | „ 5       | ... | 2 men |
| „ 3       | ... | 2 men  | „ 6       | ... | 10 „  |

Half mile cleared zone.

In May, Mr. Belcourt of the Public Works Department began a scrutiny of the title deeds relating to the land in Vallée Pitot with the object of purchasing the area necessary for the establishment of the cleared zone recommended by Dr. Andrew Balfour. As a result of preliminary enquiries it became evident that the land in question had been parcelled out to small holders in such a way that although the holder held title deeds for a certain area of land, there was nothing in the deeds which gave any indication of the exact position and limits of the holding. Moreover, several of those parcellings had been registered in the buyer's name, instead of being in the seller's name as is the usual custom. All this has necessitated a most laborious search in the Archives, and by November last more than 1,500 documents had been carefully scrutinised in order to ascertain the present position of affairs. Towards the end of the year, however, as a result of the painstaking labours of the officials concerned, order began to appear from the chaos and it is hoped that the completion of the work will soon be accomplished.

No steps were taken to acquire any properties in the Tranquebar Valley on account of the work required in consolidating the position in the Vallée Pitot.

It was decided not to undertake any new clearing operations in this area until the private properties had been bought, so that the work of the department has been limited to the upkeep of the areas previously cleared.

Paris green as a  
larvicide for  
anophelines.

This dye has been tried to a small extent in Port Louis with very good results. In the first experiment the dye was diluted with street dust in the proportion of 1 part Paris Green (by measure) to 9 parts street dust. A small barachois 30 feet long, 10 feet broad and about 1 foot average depth, in the estuary of the St Louis river was used for the first trial. This pool was one of a pair which contained quantities of green alga growing in the brackish water. The pool was inhabited by small fish, water snails, agrionid larvæ and larvæ of *Anopheles costalis*. The mixture of dye and dust was thrown by hand on the surface of the water until the whole surface had been covered with a fine green scum.

At the end of 30 minutes trial dips were made and living *costalis* larvæ were obtained. These were taken back to the laboratory and transferred to clean water. They all died during the course of the afternoon. Larvæ from the control pool a few yards distant from the experimental pool, collected and kept in the laboratory under the same conditions, were alive the following morning.

The pool was revisited 23 hours after the application of the dye. The following note describes the conditions met with. "Water clear and limpid. Large numbers of small stunned snails present. Fish stupefied and easy to catch but no dead fish seen. 20 dead *costalis* larvæ recovered. No living larvæ found. Larvæ of *Agrionidae* alive. Larvæ in control pool healthy." Subsequent visits showed recovery of snails and fish.

Later, collections of surface water which had been found to contain *A. costalis* larvæ were treated with a mixture of Paris Green and dry sawdust, the dye being mixed with the sawdust in a strength of 5% by volume. The larvæ were all killed.

It was noted that in some of the pools in which anopheline and culicine larvæ occurred together, the anopheline larvæ were sometimes the only ones to be killed by the application of the dye. In this connection the following note describes an observation made by the writer one evening.

"May 16th. *A. costalis*, *mauritanus*, *funestus* and *Stegomyia* larvæ placed in some water. Control batch put aside. Larvæ observed. Feeding well. Anophelines lie on surface of water and feed by rotating head through an angle of 180° and sweeping the surface of the water with their brushes from below. If water shallow enough they may feed on bottom. Lie at rest quietly feeding. *Stegomyia* very active, feeding mainly on bottom of dish and sometimes in mid-water. Do not often sweep surface.

"5.30 p.m. Paris Green dusted on water.

"Anopheline larvæ ate much greater quantities of floating Paris Green than *Stegomyia* did. Anopheline larvæ appeared to become paralysed. At 10.30 p.m. the Anophelines were still alive, but very sluggish in their movements, the *Stegomyia* larvæ were apparently unaffected."

By morning all the larvæ and one cyclops were dead. One pupa was alive after 24 hours and subsequently hatched. The control batch were normal."

It would appear that the apparently selective action of dye is due to the different feeding habits of the larvæ.

The surface feeders absorb a much greater quantity of the substance than the bottom feeders, and suffer accordingly. This is also the probable explanation why fish and other aquatic creatures are immune to quantities of the poison which are fatal for Anophelines.

Further observations will be reported in due course.



Plague.

The figures showing the monthly occurrence of human plague cases in Port Louis are given in the following table.

| Month         | Bubonic |        | Septicæmic |        | Pneumonic |        | Total |        |
|---------------|---------|--------|------------|--------|-----------|--------|-------|--------|
|               | Cases   | Deaths | Cases      | Deaths | Cases     | Deaths | Cases | Deaths |
| January ...   | Nil     | Nil    | Nil        | Nil    | Nil       | Nil    | Nil   | Nil    |
| February ...  | 3       | 3      | Nil        | Nil    | Nil       | Nil    | 3     | 3      |
| March ..      | 1       | 1      | Nil        | Nil    | Nil       | Nil    | 1     | 1      |
| April ...     | 1       | 1      | 1          | 1      | Nil       | Nil    | 2     | 2      |
| May ...       | 2       | 1      | 1          | 1      | Nil       | Nil    | 3     | 2      |
| June ...      | 1       | 1      | 1          | 1      | Nil       | Nil    | 2     | 2      |
| July ...      | 2       | 2      | 2          | 2      | Nil       | Nil    | 4     | 4      |
| August ...    | Nil     | Nil    | 1          | 1      | 1         | 1      | 2     | 2      |
| September ... | 2       | 2      | 2          | 2      | 1         | 1      | 5     | 5      |
| October ...   | 6       | 5      | 5          | 5      | 2         | 2      | 13    | 12     |
| November ...  | 15      | 13     | 15         | 15     | 2         | 2      | 32    | 30     |
| December ...  | 25      | 20     | 8          | 8      | 1         | 1      | 34    | 29     |
| Total ...     | 58      | 49     | 36         | 36     | 7         | 7      | 101   | 92     |

The case mortality for all cases has been about 91%. The reason for this figure is probably to be found in the fact that few deaths from plague escape detection in the town, while cases which recover may not be notified to the Sanitary Authority, thus making the case mortality appear to be higher than it actually is.

January, rather exceptionally, has been the only month of the year during which no plague case was detected in the town.

The pneumonic form of plague is generally only seen in Mauritius during the cool season, and, fortunately its spread has been limited.

It is believed that the figures of the deaths from plague in the abovementioned table are a very near approximation to accuracy, owing to the stringent control exercised by the Department over the certified causes of death notified during the year. Septicæmic plague accounted for about one third of the total number of cases, and it is in the septicæmic cases where the greatest difficulty of accurate clinical diagnosis lies.

Lazaret, Grand River North West.

Forty cases of plague were treated in the Lazaret during 1924. Twelve of these patients recovered. Twenty-six of the patients were males, and fourteen females. The case mortality for these cases was 70%.

1,351 persons were kept under observation at the Lazaret for varying periods ranging from five to eight days.

The Rat Campaign.

51,308 rats were destroyed during the year. 28,001 of these were microscopically examined and 265 were found to be plague-infected :—an infection rate of 0.94%.

Ten specimens only of *Rattus rattus* were caught during the year. The small number is probably due to the fact that this species seems to have been almost completely exterminated or to have been prevented from establishing itself by the more robust *R. decumanus*. Although most of the departmental rat-catching is done by traps placed above ground, or in the neighbourhood of occupied premises, this in itself is not a sufficient reason to explain satisfactorily the extremely small number of *R. rattus* caught, and in the absence of definite information regarding the previously existing proportion of the species in Port Louis the writer is of opinion that the reason given above is probably correct.

Fecundity of Port Louis Rats.

During 1924, 136 pregnant female rats were encountered in the course of the routine examination of rodents for plague infection. The total number of the young was 748, giving a fecundity index of 5.54.

Rat Fleas.

The collection and examination of rat fleas was begun in October. Through the kindness of Dr. R. O. Sibley, M.O.H. Plaines Wilhems, the writer was enabled to make a detailed examination of type specimens of the common rat fleas, *Xenopsylla cheopis* and *astia*, given to Dr. Sibley by Dr. Hirst of Ceylon. Unfortunately, at the beginning, no specimens of *Xenopsylla braziliensis* could be obtained, nor could the writer discover any description of this flea in the Colony. Later, however, a description of all three species was found in the Tropical Diseases Bulletin (Vol. 20 No. 4 p. 270), enabling an accurate identification to be made.

In November 151 *Rattus decumanus* were examined. The examination is conducted by selecting a number of healthy rats each day, killing them painlessly by the administration of chloroform in a closed metal box and making a thorough comb out of their fleas. Any fleas which may have left the animals at the first sign of the vapour are collected from the box. From 151 rats so treated, 609 fleas were collected, a flea index of 4.3. The December figures are 372 *R. decumanus* examined, yielding 134 fleas, a flea index of 3.6.



The following table shows the number of fleas examined by the writer for purposes of identification.

|          |   |   |       |
|----------|---|---|-------|
| October  | - | - | 329   |
| November | - | - | 623   |
| December | - | - | 1,247 |
| Total    | - | - | 2,199 |

The only positive information which can be given regarding the abovementioned fleas is that none of them were *Xenopsylla astia*. It has since been found that the common rat-flea is *Xenopsylla cheopis*. *Xenopsylla braziliensis* occurs to some extent, but further observations are required before any definite statement can be made regarding the relative proportions of the two species.

Four specimens of the Genus *Ctenocephalus* were found during the course of these examinations.

Rat Migration.

It struck the writer that a good deal of important information might be obtained by attempting to find out whether the Port Louis rats were in the habit of migrating in large numbers from Port Louis to adjacent districts. A simple experiment has accordingly been instituted. A certain number of healthy male rats are liberated every day at Bois Savon after each rat has been marked by the simple expedient of chopping off its tail. When several hundred rats have been thus set at large, a look out will be kept for their appearance in the neighbouring districts of Pamplémousses and Plaines Wilhems.

Rat-Proof Granary

In April a committee was appointed by H. E. the Governor (Sir H. H. Bell, K.C.M.G.) to confer on the advisability of the building of a granary. The writer, in the absence of the Director, had the honour of representing the Medical Department on the committee. The committee decided that the construction of a rat proof granary was necessary. Unfortunately, it has been found impossible hitherto to dissociate the granary from the Harbour Improvement Scheme and the fate of the granary has thus been entirely at the mercy of considerations affecting a controversial matter which has little real bearing upon the problem of the eradication of plague from the Island.

The intimate relationship which exists between the plague and the present system of storing grain in Port Louis is well seen during the season of the year when human and rat plague are quiescent. This year, during the period February to August inclusive, 54 plague-infected rats were discovered in the town. 76% of this number were found in the grain store area. The figures for 1923 are 200, with 78% obtained in the grain store area, and for 1922, 30, of which 76% were found in the same area.

The Sanitary Inspectors have reported that there are 104 grain stores in Port Louis, exclusive of stables, chinamen's shops, and such-like places. None of these stores is actually rat-proof at the present time, although a very few of them are in reasonably good structural condition. None of the existing stores could be economically maintained rat free. In fact, the least unsatisfactory feature of the present arrangements for the storage of grain in Port Louis, is that the stores are grouped in a comparatively small area.

The object of the Government rat-proof granary is to replace the existing insanitary (using this term in its widest sense) system of storing the grain by a proper system. When this has been accomplished, it is probable that the rats which formerly inhabited the grain store area because of the abundant supply of food there, will scatter throughout the town. The scattering of the rats may be the cause of sporadic outbreaks of human plague at that time. After the preliminary scattering there will probably be a regrouping of the rats round stables, boutiques, and such-like places where food is stored. This movement has been anticipated by the department and, during the year, 111 premises were made as rat-proof as possible.

Enteric Fever.

11 cases of enteric fever were notified to the Sanitary Authority during 1924, 4 deaths were certified to be due to this disease.

Markets and Abattoir.

The markets and abattoir of Port Louis were frequently inspected by the Sanitary Authority during the year. No steps were taken by the Municipality to remedy the structural defects of these places or to instal satisfactory appliances and fittings.

Dogs.

435 unclaimed dogs, captured by the Police in the markets as strays, were destroyed in a humane manner.

In spite of the activity shown by the Police, there are still too many uncontrolled dogs roaming at large in the town.

Pigs.

In the extra urban areas 57 stray pigs were shot by the Police.

Sanitary control of Foodstuffs.

The following table shows the foodstuffs seized by the Sanitary Authority as being unfit for human consumption:

| Foodstuffs     | Quantity             | Method of Disposal  |
|----------------|----------------------|---------------------|
| Potatoes       | 254 tons             | Converted to manure |
| Fish           | 433 lb.              | Destroyed           |
| Tinned Fish    | 667 "                | "                   |
| Tinned Fish    | 139 "                | " (fined Rs. 75)    |
| Preserved Meat | 60 "                 | "                   |
| Salted Meat    | $\frac{1}{4}$ barrel | "                   |



Milk trade.

The annexed graph shows that an appalling condition of affairs exists with regard to the milk trade in Mauritius.

The graph for the "Town Samples" is compiled from the records of analysis of samples taken from casual hawkers in Port Louis, while that labelled "Railway Samples" represents in graphical form the conditions found as a result of the analysis taken from consignments of country milk sent by rail for sale in Port Louis.

In the course of this work 54 prosecutions were undertaken against offenders, as a result of which Rs. 4,500 were inflicted as fines ranging from 50 to 100 rupees for each offence.

5th May, 1925.

J. BALFOUR KIRK,  
M. O. H. Port Louis.

## ANNEXURE TO APPENDIX I.

YEARLY RETURN OF INSPECTIONS MADE AND ACTION TAKEN BY THE SANITARY STAFF OF M.O.H.  
PORT LOUIS FROM JANUARY TO DECEMBER, 1924.

*No. of visits paid to :*

|                  |   |   |   |   |   |   |   |        |
|------------------|---|---|---|---|---|---|---|--------|
| Private Premises | - | - | - | - | - | - | - | 20,038 |
| Lodging Houses   | - | - | - | - | - | - | - | 1,145  |
| Shops            | - | - | - | - | - | - | - | 1,736  |
| Markets          | - | - | - | - | - | - | - | 175    |
| Bake-Houses      | - | - | - | - | - | - | - | 173    |
| Slaughter Houses | - | - | - | - | - | - | - | 28     |
| Butchers' Shops  | - | - | - | - | - | - | - | 99     |

*Special enquiries in regard to Sanitary matters etc. :*

|   |   |   |   |   |   |   |   |       |
|---|---|---|---|---|---|---|---|-------|
| Control of cremations and exhumations       | - | - | - | - | - | - | - | 36    |
| No of Stables, Pigsties, Cowsheds inspected | - | - | - | - | - | - | - | 1,546 |

*Government Establishments inspected :*

|  |   |   |   |   |   |   |   |       |
|--|---|---|---|---|---|---|---|-------|
| Public latrines—Gratuitous latrines—Noxious factories—Camps of labourers—Docks—Water Courses—Cemeteries—Sea-Shores | - | - | - | - | - | - | - | 9,015 |
| No of visits paid to waste lands in town and district of Port Louis  | - | - | - | - | - | - | - | 1,333 |
| Attendance of Sanitary Officers at Law Courts  | - | - | - | - | - | - | - | 163   |
| No of Dhobies' workshops visited   | - | - | - | - | - | - | - | 199   |
| No of lighters in harbour  | - | - | - | - | - | - | - | 797   |

*Nuisances on Private Premises :*

|                             |   |   |   |   |   |   |   |       |
|-----------------------------|---|---|---|---|---|---|---|-------|
| Notices and requests issued | - | - | - | - | - | - | - | 2,339 |
| No complied with            | - | - | - | - | - | - | - | 1,560 |
| No not complied with        | - | - | - | - | - | - | - | 779   |

*Contraventions of Sanitary Enactments detected*

|                  |   |   |   |   |   |   |   |     |
|------------------|---|---|---|---|---|---|---|-----|
| Cases prosecuted | - | - | - | - | - | - | - | 985 |
| Amount of fines  | - | - | - | - | - | - | - | 396 |

Rs. 2,671

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| No. of certificates transmitted—to the Municipality (Ordinance 23 of 1903) for abatement of Public Nuisances existing in the town of Port Louis | - | - | - | - | - | - | - | 3 |
|---|---|---|---|---|---|---|---|---|

|  |   |   |   |   |   |   |   |     |
|--|---|---|---|---|---|---|---|-----|
| No. of orders issued by Sanitary Authority for improvements and removal of nuisances as contemplated in Ordinance 21 of 1900 | - | - | - | - | - | - | - | 456 |
|--|---|---|---|---|---|---|---|-----|

|                  |   |   |   |   |   |   |   |     |
|------------------|---|---|---|---|---|---|---|-----|
| No complied with | - | - | - | - | - | - | - | 309 |
|------------------|---|---|---|---|---|---|---|-----|

*Nuisances bearing on Public Health referred to Government for action :—*

|  |   |   |   |   |   |   |   |     |
|--|---|---|---|---|---|---|---|-----|
| No referred to Public Works Department | - | - | - | - | - | - | - | 261 |
| do. Railway                            | - | - | - | - | - | - | - | 18  |
| do. Forests                            | - | - | - | - | - | - | - | 13  |
| do. Public Instruction                 | - | - | - | - | - | - | - | 3   |
| do. Customs                            | - | - | - | - | - | - | - | 2   |
| do. Postal and Telegraph               | - | - | - | - | - | - | - | 1   |
| do. Immigration                        | - | - | - | - | - | - | - | 7   |
| do. Sanitary Engineer                  | - | - | - | - | - | - | - | 432 |
| do. Drainage Engineer                  | - | - | - | - | - | - | - | 730 |

*Application of Swine destruction Ordinance :*

|   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|----|
| No of pigs shot by Police in Extra Urban Area | - | - | - | - | - | - | - | 57 |
|---|---|---|---|---|---|---|---|----|

*Milk Control.*

|                            |   |   |   |   |   |   |   |           |
|----------------------------|---|---|---|---|---|---|---|-----------|
| Total No of Contraventions | - | - | - | - | - | - | - | 54        |
| do. Convictions            | - | - | - | - | - | - | - | 50        |
| do. Fines                  | - | - | - | - | - | - | - | Rs. 4,500 |
| do. Warnings               | - | - | - | - | - | - | - | 149       |

22nd May, 1925.

J. BALFOUR KIRK,  
M.O.H. Port Louis.



# MILK-CONTROL

## PORT LOUIS

1924

The columns show the percentage of Samples of milk  
for each month found on analysis to be adulterated









## APPENDIX II

## REPORT OF THE MEDICAL OFFICER OF HEALTH, PLAINES WILHEMS.

Plaines Wilhems district consists of four townships and two villages. There are three local Boards of Commissioners viz: for Curepipe, for Quatre Bornes and for Rose Hill and Beau Bassin. These Boards have certain direct responsibility for administering the township or urban area. The extra-urban areas of the above mentioned towns, and the remaining villages Phoenix and Vacoas are directly administered by the Government who also supervise sanitation of the whole district. There is thus a dual control as far as the Local Boards are concerned. It is very pleasant to acknowledge the help and assistance of the Chairmen of Boards viz: Mr. Daruty de Grandpré of Curepipe, Mr. Brown of Quatre Bornes and the Hon. J. M. Brodie of Rose Hill and Beau Bassin, as well as of the energetic Secretaries of the Boards.

There have been considerable advances in sanitation during the last year in the township areas. Special mention may be made of the fine new Slaughter House erected by the Curepipe Board which is now nearly completed on an up to date English model; the new market of Quatre Bornes; the erection of water carriage latrines in Rose Hill market, further improvements of the markets in Rose Hill and Beau Bassin and development of the rain water collectors in the Rose Hill-Beau Bassin township area. Further public latrines on water carriage system in Rose Hill and Beau Bassin are expected next year, also a new Slaughter House for the township to be built on model lines.

The population of the district of Plaines Wilhems on the 31st of December 1924 is estimated at 80,646. The death-rate for 1924 is 20.6 and the birth-rate 44.0 per 1,000 of population.

## DISPOSAL OF REFUSE AND SOIL SANITATION.

The main feature of the year's work has been the large number of pit latrines installed in the area viz: 5,618. Although many have been in use for six months and more, it may be said that in a very few instances have these pits caused trouble; and only where gross misuse has been made of the pit by inhabitants who have thrown extraneous articles into the pit.

A few also that have not had the fly-proof covers kept on have formed green bottle fly breeding places; the matter is being attended to by a special oiling staff. But in the very considerable majority, the excrement and urine have filtered away, and the resultant sludge has been so little as to induce hope that the pit with proper use will last several years without causing nuisance.

Stances used have been of the usual Government pattern except in Rose Hill where a local contractor employed by the Board has made stances of good class workmanship based on a model used in the Near East. The number of stances put in are 5,618. In 700 instances owing to peculiar local conditions prevailing, excluding Curepipe, pail latrines have had to be kept on; in 325 of these a satisfactory model has been installed which is made of concrete. It is hoped to further extend this work next year; and from the evident fouling of the ground around the old type of closet this is clearly important in order to extend the campaign against hookworm.

In 101 private premises septic tank installations allowing of water carriage closets in houses have been installed under the joint direction of the Drainage Engineer and Medical Officer of Health. Of these 16 are awaiting completion.

In Curepipe, the disposal of night soil generally, except for the few private septic tank installations, continues to be the dry bucket system. The system of disposal by trenching (following abolition of the engrais system), came to an end when the available ground was filled up, no further road access being available. A former engrais tank was converted hastily into a settlement tank, and the effluent disposed of by land drainage direct without filtration.

This system has been overworked and is not large enough. Accordingly proposals were made for proper disposal by three septic tanks and filters. These proposals gave rise to much misunderstanding; and as yet nothing has been accomplished. This must be done in the near future. Moreover the lengthy distances and rough roads which bullocks with heavily loaded carts have to travel have caused the health of the animals to give rise to serious anxiety. But for the constant care of the Government Veterinary Surgeon the service would have been frequently near a serious breakdown.

A consignment of metal pails and covers from England is expected shortly to replace wooden pails and covers.

The night soil removal of buckets has been for some time past now carried out by night. This has not been easy to organize, and moreover owing to access to many places being impossible by night and to the absence of sanitary lanes, one or two carts have to work by day but the remainder of the carts, 17 in number, work by night.

At the beginning of 1924 a new class of night soil labourers arrived from India. These men were under serious misapprehension of the kind of work they were engaged to do in Mauritius, as well as not apparently understanding other Mauritian conditions. Consequently they gave much trouble, and indeed struck work in a body on 4 different occasions for a total of 6 days; there were as well several refusals on the part of groups of these



individuals on many separate occasions. On the whole however there can be no question of the great sanitary improvement of the night soil service. The former labourers owing to inadequate arrangements made by the Contractor emptied contents of one bucket into other buckets, or frequently into the streams and bamboo hedges which abound in Curepipe. This is not done now. Some local labour has been again employed as there is not a requisite number of Indian Immigrants. It is satisfactory therefore to note that only 230 complaints of neglect of night soil service in the year under review have been received from the Board or from private individuals although every means of publicity has been used to intimate that all complaints are gratefully received with a view to as promptly remedying as possible.

Number of night soil men employed is 56 with 9 sirdars. 8 men supervise in addition the round of night soil carts and 22 persons including women are employed to clean buckets, attend the stables, harness and repair of carts.

An excellent model village of 12 cottages substantially built on up to date lines has been erected on Crown Land Malherbe for housing labourers. It is not yet ready for occupation.

#### SCAVENGING

Scavenging is performed by Government directly at Curepipe. There are 8 carts and 2 lorries, with 74 employees including women and children and 2 sirdars engaged. 7,650 cartloads, and 1,576 lorryloads (each equal to 4 cartloads) of rubbish have been removed. This service in general has much improved. The contrast with 2 years ago when in the bamboo and hedge-cutting season there were heaps of refuse in every street is very marked. The kitchen and shop refuse has been much less of a nuisance since 150 shops alone and several private houses have been provided with dust bins.

In other areas, local Boards or Contractors carry out removal of night soil and scavenging. In Quatre Bornes deep trenching of night soil is done, also in Rose Hill and Beau Bassin, but in the latter a septic tank and filter have been proposed and the principle accepted. In no case is any engrais system at work.

In other areas shops and many private houses have been provided with dust bins.

The abolition of waste water drains leading to road side gutters, which were thus practically sewers, has led to great general sanitary improvement, although primarily an anti-malarial measure. 601 soakage pits have been substituted in the district.

The use of field incinerators, principally obtained for burning dangerous refuse in infectious disease cases has prevented the former method of removal of such refuse in the ordinary scavenging carts, a considerable sanitary advance.

#### EPIDEMIC SECTION.

With the exception of plague, the enterica and diphtheria, the district has been fairly free from infectious diseases in the past year. These three diseases however call for comment.

*Plague.*—In October 1923 plague appeared in Beau Bassin and continued in epidemic form until March. From March till August 1924 except for 2 cases, there was an intermission till it reappeared in Trianon estate, Quatre Bornes, in August. The latter recrudescence was practically confined to the estate and its environs except for the 4 cases in Curepipe, and ceased in December.

During the year under review there were 54 cases, 49 of which were in the Quatre Bornes area, 4 in Curepipe and 1 only in Vacoas (the latter originating in Trianon estate). This estate had 19 cases, and owing to the fact that the houses of labourers (many in disrepair) were all of thatch roof, mud walls and floor variety, arranged in camps, the appearance of the disease required radical measures to be undertaken. Unfortunately there was an undue hesitancy to the proposals of the Department by those responsible for administering the estate. This attitude is understood to be very rare in Mauritius. The local Manager and staff of the estate however rendered every assistance and the epidemic was finally circumscribed with success. One large camp was burnt eventually as well as isolated huts and also stables of poor construction in a very foul area where bullocks and animals were kept.

There was a small rat plague epidemic in Curepipe followed by 4 human cases. Evacuation orders for the slum areas described by Dr. Balfour were issued, and wooden floors and so called "cellars" of shops were abolished and replaced by proper concrete floors. Rat proofing of houses was also carried out in the neighbourhood and proved effective. This latter measure should be extended by a proper system of licensing of trades and industries as referred to by Dr. Balfour. In fact good shops may be considered to be an index of the sanitary condition of a country as people will privately "live up" to the public establishments if the latter are clean and satisfactory.

*Preventive Inoculation.*—A serious prejudice exists among certain of the better classes, possibly owing to an irrational press campaign at the commencement of the epidemic; and there is the usual lethargy of lower classes to help themselves in time of trouble. But on visiting houses of the class usually affected by plague, inoculation generally has been welcomed provided it entails no trouble to the inhabitants.

*Rat Examinations.*—16,021 rat examinations have been made in Quatre Bornes Rose Hill, Beau Bassin area throughout the year, with 283 positive results. The conclusion arrived at is that the presence of cultivated areas, dry stone walls, the bad type of house buildings and cowsheds, make it impossible to drive out the rat as in a substantially built



town. It is feared also that a finding of rat plague every month in small numbers throughout this area drives one to the conclusion that plague is really endemic.

*Annexures.*—5 statements are annexed showing the plague cases registered, number of huts destroyed, rodents destroyed and examined, preventive measures taken and orders, notices and requests served in connection with plague.

*Enteric Fever.*—This has probably been much more extensive than would appear from the number of cases notified. A considerable area of Phoenix (Mesnil) is without a proper water supply. It is understood that the Department of Public Works owing to technical reasons have to put in a new main in order to supply the locality with pure water. A large number of persons drink direct from the river which is polluted in many ways from its source in Curepipe.

On several occasions the disease has been suspected after death while making controls. Nearly 200 controls by liver, lung and spleen puncture have been made after death principally to eliminate the question of plague; and enquiries made from what they are worth have frequently given rise to suspicion of the enterica. The importance of compulsory detention of epidemic diseases in hospitals has been forcibly demonstrated.

*Diphtheria.*—A most important regulation dealing with the treatment of this disease has been made forbidding visits of any individual to the infected house, excepting only the medical attendant and those responsible for nursing the case. This was rendered very necessary by the history of the majority of the cases who had clearly become infected by promiscuous and uncontrolled visiting of sick persons.

Two statements are appended (annexures 6-7) showing the infectious diseases notified and how they terminated.

#### ANTIMALARIAL WORKS IN PLAINES WILHEMS

*Curepipe.*—In Curepipe, 17 cantonniers under a Moustiquier have carried out the usual cleaning of the existing channels and rivers. Work at the old slaughter house area at Forest Side which was begun last year is only partially completed owing to the fact that the cattle are still being grazed, and are liable to continually destroy work.

The new Slaughter House at the other side of the town will shortly be used. It has been proposed to provide proper accommodation for cattle to avoid grazing, while they are under observation before slaughter. If this is not done, it is feared that similar conditions will again arise.

The Mare Dioré, at Forest Side, a very swampy area in close proximity to houses, has been successfully drained and upkept.

*Quatre Bornes.*—In Quatre Bornes Section, both *A. Costalis* and *A. Maculipalpis* have been found in Candos Mountain drains, and in the neighbourhood of Mount Corps de Garde and in the intervening area between these two points. 12 cantonniers and a moustiquier carry out this work.

The principal major work done is a large drain on the north side of Candos Mountain which acts as a proper catchment drain. A large number of small drains which existed have thereby been abolished. These small drains were partly artificial and partly natural, and were most objectionable as they ran at right angle to the slope and therefore did not act as catchment drains at all. It was quite impossible to prevent small pools being left in the impressionable clay bottom, and the large catchment drain higher up the hill side has been most beneficial in this connection.

*Vacoas.*—In Vacoas section the labour employed consists of 18 cantonniers under a moustiquier. Beyond some new drains in Phoenix, there is no change in the work of the Department. But a very bad mosquito-breeding marsh adjacent to Réunion Estate has been successfully dealt with by Mr. Maingard on the advice of the Department.

*Rose Hill and Beau Bassin.*—In Rose Hill and Beau Bassin there are no works directly carried out by the Department. *A. costalis* have been found in roadside gutters, in various water nuisances arising from the defective drainage channels from irrigation canals and broken water pipes and defective public fountains. The irrigation canal work is the duty of Syndics and private owners.

The other kinds of nuisances have been dealt with and repairs effected without trouble.

Further work is necessary next year on a large swamp in the neighbourhood of Petit Malabar mountain, and some further work on the old slaughter house area in Curepipe and near Candos mountain.

Mr. Parsons, the Sanitary Engineer, has executed the works referred to above as well as many minor repairs, with great success.

The list annexed (annexure 8) shows the dates and localities where *Anopheles Costalis* and *Maculipalpis* have been found.

*Medical Inspection of Schools.*—The findings of the examination of pupils in Government and in State Aided Schools are summarised in Annexure 9.

*Tuberculosis in Cattle.*—A large number of cattle have been found to be tuberculous when slaughtered in the Rose Hill Abattoir. Accordingly the Director of Agriculture is organizing a campaign in the district to extend the information thus obtained, whereby the Tuberculin test is to be applied section by section in the district. It is suspected that the stall accommodation provided by private owners is insufficient.

*Training of Staff.*—Classes of instruction have been held for Sanitary Inspectors and Guards in which the Drainage Engineer has assisted.



*Acknowledgment.*—I wish to acknowledge the assistance given by the staff ; especially Sanitary Inspector Mr. Baretti who has managed the night soil and scavenging services of Curepipe in addition to his other duties. He has exercised great patience and tact in dealing with a very difficult task.

Mr. Lambert of Curepipe and Sanitary Inspector Mr. Ferrière of Rose Hill also deserve a special mention. The latter has had a most arduous task in combating plague and carrying out soil sanitation campaign.

Mr. Tanguy of Vacoas in the short time since his transfer has expeditiously carried out the soil sanitation campaign in his section.

R. O. SIBLEY,  
Medical Officer of Health, Plaines Wilhems.

ANNEXURE I

PLAGUE CASES DETECTED IN PLAINES WILHEMS AND RESULT OF TREATMENT—1924.

| Township                        | No. of cases | Lazaret or Hospital | Cured | Died | Total | Remarks                                     |
|---------------------------------|--------------|---------------------|-------|------|-------|---|
| B. Bassin, R. Hill and 4 Bornes | 49           | 49                  | 6     | 43   | 49    | 6 contracted plague while under observation |
| Vacoas ... ..                   | 1            | 1                   | ...   | 1    | 1     |   |
| Curepipe ... ..                 | 4            | 3                   | 1     | 3    | 4     |   |
| Total ... ..                    | 54           | 53                  | 7     | 47   | 54    |   |

ANNEXURE II

NUMBER OF THATCH HOUSES BURNT IN PLAINES WILHEMS IN CONNECTION WITH PLAGUE—1924.

| Township                            | No. of houses destroyed |
|-------------------------------------|-------------------------|
| B. Bassin, R. Hill and 4 Bornes ... | 205                     |
| Vacoas ... ..                       | 3                       |
| Curepipe ... ..                     | 2                       |
| Total ... ..                        | 210                     |

ANNEXURE III.

NUMBER OF RODENTS DESTROYED IN PLAINES WILHEMS—1924.

| Township                                 | No. of rodents caught |       |       |        | No. of blood examinations and results <sup>(a)</sup> |          |          | No. of animals found dead <sup>(b)</sup> | No. of blood examinations and results <sup>(a)</sup> |          |       |
|--|-----------------------|-------|-------|--------|--|----------|----------|--|--|----------|-------|
|  | Rats                  | Mice  | Musks | Total  | No. of examinations                                  | Positive | Negative |  | Positive   | Negative | Total |
| B. Bassin, R. Hill and Quatre Bornes ... | 7,884                 | 1,302 | 1,065 | 10,251 | 10,251   | 280      | 9,971    | 5,770                                    | 3  | 5,767    | 5,770 |
| Vacoas ... ..                            | 2,504                 | 146   | ...   | 2,650  | 2,650  | 6        | 2,644    | 69                                       | ...  | ...      | ...   |
| Curepipe ... ..                          | 2,665                 | 384   | 29    | 3,078  | 801  | 4        | 797      | 26                                       | ...  | ...      | ...   |
| Total ... ..                             | 13,053                | 1,832 | 1,094 | 15,979 | 13,702   | 290      | 13,412   | 5,865                                    | 3  | 5,767    | 5,770 |

(\*) All the above examinations were made by the office of the M.O.H. (in which Mr. Ferrière, the Sanitary Inspector has helped) with the exception of 353 which were kindly made by the Laboratory staff of Réduit.  
(b) The number of dead animals shews great increase this year probably due to poisoning undertaken and the bonus given to ratcatchers.

ANNEXURE IV.

PREVENTIVE MEASURES TAKEN IN CONNECTION WITH PLAGUE—1924.

| Township                        | No. of cases | No. of preventive inoculations | No. of premises disinfected |
|---------------------------------|--------------|--------------------------------|-----------------------------|
| B. Bassin, Rose Hill & 4 Bornes | 49           | 3,253                          | 294                         |
| Vacoas ... ..                   | 1            | 227                            | 19                          |
| Curepipe ... ..                 | 4            | 1,502                          | 57                          |
| Total ... ..                    | 54           | 4,982                          | 370                         |



ANNEXURE V.

ORDERS, NOTICES AND REQUESTS SERVED IN CONNECTION WITH PLAGUE—1924.

| Township                      | orders served | No. of notices served | No. of requests served | Total | Remarks  |
|-------------------------------|---------------|-----------------------|------------------------|-------|--|
| B. Bassin, R. Hill & 4 Bornes | 210           | 325                   | 2,739                  | 3,274 | Orders were issued to replace wooden floors by concrete and to abolish dirty cellars. This important plague measure is being continued as regards shops. |
| Vacoas                        | 51            | 704                   | 641                    | 1,396 |  |
| Curepipe                      | 81            | 443                   | 539                    | 1,063 |  |
| Total                         | 342           | 1,472                 | 3,919                  | 5,733 |  |

ANNEXURE VI

INFECTIOUS DISEASES IN PLAINES WILHEMS—1924.

| Disease                     | No. of cases in                 |        |          | Total |
|-----------------------------|---------------------------------|--------|----------|-------|
|                             | B. Bassin, R. Hill and 4 Bornes | Vacoas | Curepipe |       |
| Enteric Fever               | 15                              | 9      | 9        | 33    |
| Diphtheria                  | 21                              | 5      | 53       | 79    |
| Septicæmia, Puerperal Fever | 2                               | 1      | 1        | 4     |
| Measles                     | 1                               | ...    | 3        | 4     |
| Erysipelas                  | ...                             | 1      | ...      | 1     |

ANNEXURE VII.

RESULT OF INFECTIOUS DISEASE TREATMENT IN PLAINES WILHEMS—1924.

| Disease                     | Township                        | No. of cases | Home treatment | Hospital treatment | No. of cures | No. of deaths |
|-----------------------------|---------------------------------|--------------|----------------|--------------------|--------------|---------------|
| Enteric fever               | B. Bassin, R. Hill and 4 Bornes | 15           | 8              | 7                  | 12           | 3             |
| "                           | Vacoas                          | 9            | 3              | 6                  | 5            | 4             |
| "                           | Curepipe                        | 9            | 6              | 3                  | 4            | 5             |
| Diphtheria                  | B. Bassin, R. Hill and 4 Bornes | 21           | 20             | 1                  | 21           | ...           |
| "                           | Vacoas                          | 5            | 5              | ...                | 5            | ...           |
| "                           | Curepipe                        | 53           | 48             | 5                  | 52           | 1             |
| Septicæmia, Puerperal Fever | B. Bassin, R. Hill and 4 Bornes | 2            | ...            | 2                  | 2            | ...           |
| "                           | Vacoas                          | 1            | 1              | ...                | ...          | 1             |
| "                           | Curepipe                        | 1            | 1              | ...                | ...          | 1             |
| Measles                     | B. Bassin, R. Hill and 4 Bornes | 1            | 1              | ...                | 1            | ...           |
| "                           | Curepipe                        | 3            | 3              | ...                | 3            | ...           |
| Erysipelas                  | Vacoas                          | 1            | ...            | 1                  | 1            | ...           |
| Total                       |                                 | 121          | 96             | 25                 | 106          | 15            |

ANNEXURE VIII.

COSTALIS

| 1923    | Locality      | Exact situation and nature of breeding ground |
|---------|---------------|---|
| Mch. 11 | Quatre Bornes | Foot of Candos Mountain.                      |
| Apr. 22 | "             | ...La Louise Canal, in bed of.                |
| May 26  | Beau Bassin   | ...In main road gutter.                       |
| June 15 | "             | ...Chebel estate.                             |
| "       | Quatre Bornes | Foot of Candos Mountain.                      |
| July 21 | Beau Bassin   | ...Barkly Asylum.                             |
| Aug. 10 | Quatre Bornes | Quatre Bornes station, Sir W. Newton Street.  |
| " 13    | Beau Bassin   | ...Barkly Asylum.                             |
| Sept. 5 | Forest Side   | ...Slaughter House, in hoof holes.            |
| " 27    | Beau Bassin   | ...Chebel.                                    |



COSTALIS—(Contd.)

| 1924          | Locality       | Exact situation and nature of breeding ground    |
|---------------|----------------|--|
| Feb. 2        | Beau Bassin    | ...Belvédère.                                    |
| " 4           | "              | ...Beau Bassin Road.                             |
| " 15          | Quatre Bornes  | ...La Louise.                                    |
| " 19          | Beau Bassin    | ...Colonel Maingard Street.                      |
| " 21          | Rose Hill      | ...Malartic street.                              |
| Mch. 8        | Beau Bassin    | ...Main road gutter.                             |
| " "           | "              | ...Beau Bassin Prison.                           |
| " 19          | Quatre Bornes  | ...Foot of Corps de Garde Mountain.              |
| " 20          | "              | ...La Louise.                                    |
| " 25          | "              | ...In front of Victoria Hospital.                |
| Apr. 4        | Rose Hill      | ...Stanley.                                      |
| " 4           | Quatre Bornes  | ...Near Cossigny street.                         |
| " 8           | Forest Side    | ...Slaughter House.                              |
| May           | No findings.   |  |
| June 12       | Rose Hill      | ...Stanley, Hugnin Street.                       |
| " 15          | Beau Bassin    | ...Chebel estate. [gutter).                      |
| July 11       | Quatre Bornes  | ...Front of Mr. E. Léclezio's premises (street   |
| " 19          | Petite Rivière | ...Along Railway line from Richelieu to Petite   |
| " 25          | Vacoas         | ...Market. [Rivière, under bridge No. 7.         |
| Aug.          | No findings.   |  |
| Sept. 1       | Quatre Bornes  | ...La Louise, Road to Black River.               |
| " 6           | "              | ...La Louise, canefield Sayed Hossen.            |
| " 15          | Beau Bassin    | ...Industrial school.                            |
| " 22          | Quatre Bornes  | ...Victoria Hospital.                            |
| " 23          | "              | ...La Louise, road leading to Victoria Hospital. |
| Oct. 11       | Rose Hill      | ...Beau Bassin Road.                             |
| Nov. 11       | Quatre Bornes  | ...St. Jean Road, Bonieux's yard.                |
| Dec. 3        | Vacoas         | ...Allée Brillant, E. Piat's yard.               |
| " 11          | Quatre Bornes  | ...Belle Rose, Plaines Wilhems River.            |
| " 22          | "              | ...Avenue Bigaignon, Ayoob's yard.               |
| " 24          | Phoenix        | ...Rivière du Mesnil, in canefield.              |
| " 31          | Quatre Bornes  | ...Avenue Victoria, Mr. Fayd'herbe's workshop.   |
| MACULIPALPIS. |                |  |

1923.

|        |               |                                     |
|--------|---------------|-------------------------------------|
| June 6 | Quatre Bornes | ...Foot of Candos Mountain.         |
| " 29   | "             | ...Foot of Corps de Garde Mountain. |

1924.

|         |               |   |
|---------|---------------|---|
| Jan. 24 | Beau Bassin   | ...Belvédère in seepage water in Seebayl's garden |
| April 4 | Quatre Bornes | ...Foot of Corps de Garde Mountain.               |

ANNEXURE IX.

SCHOOL MEDICAL INSPECTION.—PLAINES WILHEMS

| Total No. of pupils examined | Persistent mouth breathers indicating adenoids or other obstruction | Pupils having 4 or more decayed teeth | Enlarged spleen |        |       | High Grade Anaemia | Congenital Syphilis | Scabies |
|------------------------------|---|---------------------------------------|-----------------|--------|-------|--------------------|---------------------|---------|
|                              |   |                                       | Large           | Medium | Small |                    |                     |         |
| 42                           | 5   | 7                                     | ...             | ...    | 1     | ...                | ...                 | 2       |
| 227                          | 4   | 13                                    | 1               | 1      | 1     | 2                  | ...                 | ...     |
| 235                          | 8   | 36                                    | ...             | 1      | 1     | 2                  | 2                   | ...     |
| 192                          | 4   | 42                                    | ...             | ...    | 2     | ...                | ...                 | ...     |
| 318                          | 3   | 30                                    | ..              | 1      | 1     | ..                 | ...                 | 9       |
| 112                          | 2   | 19                                    | 1               | ...    | ...   | ...                | ...                 | 2       |
| 305                          | ...   | 20                                    | ...             | ...    | 2     | ...                | ...                 | ...     |
| 111                          | 20  | 3                                     | 3               | ...    | ...   | 1                  | ...                 | 2       |
| 275                          | 30  | 3                                     | 1               | 1      | 1     | ...                | ...                 | 2       |
| 154                          | 30  | 8                                     | ...             | ...    | ...   | ...                | ...                 | 1       |
| 324                          | 30  | 9                                     | ...             | ..     | ...   | ...                | ...                 | ...     |
| 121                          | 23  | 6                                     | ...             | ...    | ...   | ...                | ...                 | ...     |
| 2,416                        | 159   | 196                                   | 6               | 4      | 9     | 5                  | 2                   | 18      |



## APPENDIX III.

## REPORT OF THE SANITARY WARDEN FOR THE NORTHERN DISTRICTS.

TO THE HON DIRECTOR, Medical and Health Department.

SIR,

I have the honour to submit the annual report on the work done in the Northern districts during the year 1924.

2. I was appointed Sanitary Warden (North) and assumed duty on January 25th 1924. The area, which comprises three districts: Pamplémousses, Rivière du Rempart and Flacq, extends over  $241\frac{1}{2}$  sq. miles and had a total population estimated at 122,499 inhabitants on 1st January 1924, scattered over 135 villages and hamlets, and 22 sugar estates and annexes.

## SOIL SANITATION CAMPAIGN

3. This is the problem which received my earliest and best attention. —5,000 pit latrines have been completed during the year.

In this connection, I may state that Pamplémousses (the district most suitable for the pit system) is now practically soil sanitized.

Rivière du Rempart which was started in August is progressing satisfactorily despite the difficulties due to a rocky soil. It is reckoned that about 1,000 pail latrines will have to be established.

Flacq, which was started in December, is not very suitable for the pit system owing both to the rocky soil and the small depth at which subsoil water is met.

It is anticipated that about 50% of the latrines will be of the pail system.

## MALARIA

4. 750 deaths were registered during the year. 424,551 ft. of antimalarial works along rivers, streams, canals and marshes have been upkept.

At Mon Plaisir (Pamplémousses) a general cleaning up has been undertaken and it is expected that about 8,000 ft. of drains will be soon restored to proper condition.

## WATER SUPPLY.

5. This is derived :

Pamplémousses—from springs, wells and river Calebasses.

Rivière du Rempart—from wells.

Flacq : from Rivers Dubois and Jambelon and also from wells.

The supply obtained from River Calebasses is not satisfactory. The Public Works Department has been communicated with and it is expected that next year a better supply will be derived from Bassin Loulou.

In Rivière du Rempart a pumping station is being established at Goodlands and new pipes have been laid from La Cave to Grand Gaube thus materially improving the supply

In Flacq, it is proposed to lay a pipe system to Mare La Chaux.

## CONTAGIOUS DISEASES.

6. The area has been remarkably free, as may be seen in the following table :

| District        | Cerebro-spinal meningitis | Typhoid | Diphtheria | Puerperal fever and Septicæmia | Plague | Erysipelas | Measles |
|-----------------|---------------------------|---------|------------|--------------------------------|--------|------------|---------|
| Pamplémousses   | 1                         | 3       | 1          | 1                              | 1      | 1          |         |
| Riv. du Rempart | ...                       | 5       | ...        | 1                              | ...    | 1          | 1       |
| Flacq           | ...                       | 11      | 4          | 3                              | 5      | 5          | ...     |
|                 | 1                         | 19      | 5          | 5                              | 6      | 7          | 1       |

In December there was a small outbreak of plague in Grande Retraite (Flacq). The origin could not be traced out, but from information obtained, it is reasonable to believe that contamination took place in Port Louis. The case recorded in Pamplémousses fell ill in Port Louis and moved to Camp des Embrevades.

## SCHOOLS.

7. There are 40 Government and Aided Primary Schools in the area.

On the whole the condition of these schools is not very satisfactory, the buildings not offering sufficient accommodation.

From a spleen rate point of view, the most malarious sections are :

Pamplémousses—Terre Rouge.

Rivière du Rempart—Poudre d'Or & Bois d'Oiseaux.

Flacq—Rivière Sèche and Poste de Flacq.

Owing to illness and pressure of work, it was unfortunately impossible to make a complete spleen census for the 2nd half year 1924.

Quinine has been liberally distributed during the year.

## SUGAR ESTATES.

8. The conditions are improving. Wherever possible the coolie lines are being reconstructed on more hygienic plans and the upkeeping of the camps is receiving better attention.

## GENERAL CONDITIONS

9. Special effort has been made to obtain more cleanliness around dwellings in villages and hamlets. The result is most encouraging.

A. C. D'ARIFAT,  
Sanitary Warden, North.



## APPENDIX IV

## REPORT FOR 1924 ON THE DISTRICTS OF MOKA, GRAND PORT AND SAVANNE

The Sanitary Warden South is in charge of the following districts viz: Moka, Savanne and Grand Port.

(a) *Moka*: area 89 square miles, population on 31.12.24: 31,393; with one large village which includes Moka, St. Pierre, Montagne Ory, Petit Verger; 18 hamlets and 3 sugar factories with 11 camps.

(b) *Savanne*: area 93½ square miles, population on 31.12.24: 33,991; with 5 declared villages, 7 hamlets, 11 sugar factories and 26 estate camps.

(c) *Grand Port*: area 101 square miles, population on 31.12.24: 50,389, with 6 declared villages, 18 hamlets and 11 sugar factories with 24 estate camps.

2. According to the figures kindly supplied by the Registrar General, the birth and death-rates and number of still-births have been as below:—

| District   | Birth-rate | Death-rate | No. of still-births |
|------------|------------|------------|---------------------|
| Moka       | ... 46.7   | 24.3       | 175                 |
| Savanne    | ... 38.9   | 24.8       | 154                 |
| Grand Port | ... 37.0   | 31.0       | 263                 |

The year has been a comparatively healthy one as may be inferred from the table below which gives the total number of deaths recorded in each of the sections during the last three years.

Total number of deaths recorded in

| Year | Moka    | Savanne | Grand Port |
|------|---------|---------|------------|
| 1922 | ... 955 | 962     | 2,043      |
| 1923 | ... 780 | 850     | 1,721      |
| 1924 | ... 749 | 833     | 1,553      |

## SOIL SANITATION.

This campaign, begun in Moka towards the end of 1922, was extended to Grand Port and Savanne, so that by the end of December 1924 the following number of latrines had been provided.

| District                        | Pit latrines | Pail latrines | Total  |
|---------------------------------|--------------|---------------|--------|
| Moka                            | ... 2,327    | 1,819         | 4,146  |
| Savanne                         | ... 2,641    | 786           | 3,427  |
| Grand Port { Rose Belle Section | 2,971        | 341           | 3,312  |
| Port { Mahébourg Section        | 2,086        | 259           | 2,345  |
| Total                           | ... 10,025   | 3,205         | 13,230 |

Of the above, 5194 pit and 1386 pail latrines were put up during the year under review.

The three districts, as may be seen, have been fully soil sanitated, a condition which has enabled the Director of Ankylostomiasis to carry out the treatment part of the campaign with as reduced risk of reinfection as local conditions, lack of education, bad habits etc will permit.

The objection raised in certain quarters that the natives would not use their latrines, has not stood the test of experience. Repeated inspections have revealed that not only over 90% of the people actually use them, but that they insist upon the cleanliness of their slabs and, in the case of those provided with pail latrines, report any neglect in the performance of the service by the contractors. "We pay and we mean to be served" is the invariable remark made by the inhabitants of the most retired hamlet.

It is worthy of note that there seems to be a marked diminution in the incidence of intestinal complaints. This is borne out in a measure by the figures given in the table below.

| District   | Deaths declared at the Civil Status in respect of |      |      |           |      |      |         |      |      |
|------------|---|------|------|-----------|------|------|---------|------|------|
|            | Diarrhoea and Enteritis                           |      |      | Dysentery |      |      | Typhoid |      |      |
|            | 1922  | 1923 | 1924 | 1922      | 1923 | 1924 | 1922    | 1923 | 1924 |
| Moka       | ... 46  | 51   | 38   | 41        | 26   | 25   | 7       | 5    | 1    |
| Savanne    | ... 31  | 25   | 45   | 43        | 34   | 31   | 3       | 7    | 2    |
| Grand Port | ... 110   | 74   | 63   | 77        | 31   | 49   | 4       | 4    | 3    |
| Total      | ... 187   | 150  | 146  | 161       | 91   | 105  | 14      | 16   | 6    |

(Note:—Soil Sanitation was only started in Savanne in July 1924.)



The decrease is more marked in respect of localities which have been provided with pits.

Confession must here be made, however reluctantly, that the full benefit anticipated has not been derived from the establishment of pail latrines where pits could not for telluric considerations be provided, owing to the failure on the part of certain contractors to carry out the service properly. Some have been reported for allowing tubs to overflow and maggots to develop; they have been fined, but the fines imposed have proved no deterrent.

The Sanitary Staff, apart from the duty of seeing that all the premises in the districts were provided with sanitary contrivances, were also put in charge of the sale of slabs and of the collection of the sanitary rate, R. 0.50 per pit per mensem.

From the beginning the campaign was started to the end of December 1924 the money cashed in respect of rates alone was as below :—

|                                |     |     |     |     |   |
|--------------------------------|-----|-----|-----|-----|---|
| Moka                           | ... | ... | ... | ... | Rs. 13,312.50                           |
| Grand Port, Rose Belle Section | ... | ... | ... | ... | „ 18,019.52                             |
| Grand Port, Mahébourg Section  | .   | .   | .   | .   | „ 9,638.46                              |
| Savanne                        | ... | ... | ... | ... | „ 3,835.50 (campaign started July 1924) |
| Total :                        |     |     |     |     | Rs. 44,805.98                           |

The only extra assistance given was a Collector of Rates for seven and a half months at the rate of Rs. 100 p.m.

Again, about the middle of December, consequent upon the passing of the new law, the staff was asked to repost all the books by crediting the various houseowners with the amounts which had been unduly cashed from them and to forward a copy of the books duly certified to the Treasury for the handing over of the rate collection to the District Cashier. This work necessitated the making of no less than 800,000 entries. Through the good will of the staff who did not grudge giving extra hours, the Sanitary Warden was in a position to hand over the books on December 31st.

#### SCAVENGING SERVICE

4. A regular scavenging service exists only in respect of declared villages. At Mahébourg, Rose Belle, New Grove and Mare d'Albert it is performed by Government; in all the other villages by contractors. On the whole the service has been satisfactory but a regrettable exception has to be recorded in respect of Moka, St. Pierre, Montagne Ory, Petit Verger and Bois Chéri—all entrusted to the same contractor. A change of contractor took place in July but although some improvement has taken place, conditions continue to be bad.

#### WATER SUPPLY

5. There has been no change in the water supply. A note must here be made in respect of that of Mahébourg. This important village has had during the greater part of the year an intermittent limited supply and on several occasions has been practically deprived of it. For some six or seven months the piping has been exposed along the main road and cleaning operations and changing of pipes carried out. Full advantage is still to be derived. During the periods of shortage the inhabitants have had to consume River La Chaux water which is highly suspicious. No direct connexion however could be clearly established between this contingency and the appearance of numerous cases of dysentery in the village. The water supply of Chemin Grenier in Savanne has also given rise to complaints during December, the water was muddy, of inferior quality and so limited in quantity that the inhabitants have had to resort to the open canal which runs through the village.

During the year it was decided to supply St. Martin and Baie du Cap hamlets and Bois Chéri with pipe water. The measure has not yet been carried out.

#### ANTIMALARIAL WORKS

6. No additional works have been carried out during the year in the section, except the part filling in of one of the Pointe d'Esny marshes which continue in spite of the money which has been spent in the past to breed anophelines during six months at least in the year. These marshes constitute a serious problem from the engineering point of view, and it is a question whether the doing away with breeding conditions there will ever be possible.

The upkeep of the 278,313 feet of trained rivers and canals in Moka, of the 37,454 feet in Savanne and the 140,983 feet in Grand Port has been satisfactory, but here again full benefit has not been obtained owing to the continuance of conditions—hitherto left untouched—favourable to the breeding of mosquitoes.—The localities which fall under this remark are St. Hubert, Rivière des Créoles, Bel Air, Bois des Amourettes and Mahébourg. Many are the schemes put forward some twelve years ago which are still to be attended to.



## SPLEEN RATES, SPLEEN AVERAGES AND INSPECTION OF SCHOOLS

7. The schools of the three districts were each inspected at least once during each of the two half years. The table below gives the spleen rates and spleen averages obtained in respect of each district.

SPLEEN RATES AND SPLEEN AVERAGES.

| District     | No. of children on roll |                        | No. examined           |                        | No. with spleen        |                        | Spleen rate            |                        | Spleen average         |                        |
|--------------|-------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|              | 1 <sup>st</sup> ½ year  | 2 <sup>nd</sup> ½ year | 1 <sup>st</sup> ½ year | 2 <sup>nd</sup> ½ year | 1 <sup>st</sup> ½ year | 2 <sup>nd</sup> ½ year | 1 <sup>st</sup> ½ year | 2 <sup>nd</sup> ½ year | 1 <sup>st</sup> ½ year | 2 <sup>nd</sup> ½ year |
| Moka - -     | 2,066                   | 2,120                  | 1,579                  | 1,329                  | 71                     | 50                     | 4.49                   | 3.75                   | 1.13                   | 1.1                    |
| Savanne - -  | 2,130                   | 2,185                  | 1,535                  | 1,264                  | 227                    | 128                    | 14.78                  | 10.12                  | 1.51                   | 1.3                    |
| Grand Port - | 3,786                   | 3,808                  | 2,435                  | 2,360                  | 540                    | 483                    | 22.17                  | 20.48                  | 2.27                   | 1.72                   |

The tabular statement which follows mentions the schools which presented the highest rates.

| School                     | First half year         |              |                 |             |                | Second half year        |              |                 |             |                |
|----------------------------|-------------------------|--------------|-----------------|-------------|----------------|-------------------------|--------------|-----------------|-------------|----------------|
|                            | No. of children on roll | No. examined | No. with spleen | Spleen rate | Spleen average | No. of children on roll | No. examined | No. with spleen | Spleen rate | Spleen average |
| GRAND PORT                 |                         |              |                 |             |                |                         |              |                 |             |                |
| Plaine Magnien Government  | 249                     | 126          | 30              | 31.25       | 1.88           | 255                     | 169          | 65              | 38.45       | 2.26           |
| "    Aided                 | 83                      | 38           | 14              | 36.84       | 1.81           | 106                     | 81           | 33              | 40.74       | 2.22           |
| Riche-en-Eau Government    | 129                     | 59           | 22              | 54.23       | 2.61           | 116                     | 53           | 27              | 50.94       | 2.64           |
| Cent Gaulettes Aided       | 148                     | 64           | 39              | 60.93       | 3.06           | 131                     | 61           | 30              | 49.34       | 2.91           |
| Mahébourg Boys' Government | 457                     | 273          | 80              | 29.3        | 2.01           | 488                     | 323          | 64              | 19.81       | 1.80           |
| "    Girls'                | 274                     | 185          | 42              | 22.78       | 1.58           | 280                     | 78           | 32              | 17.97       | 1.62           |
| "    Boys' Aided           | 129                     | 90           | 35              | 38.88       | 2.07           | 133                     | 56           | 13              | 23.21       | 1.73           |
| "    Girls' "              | 235                     | 153          | 37              | 24.18       | 1.54           | 226                     | 176          | 36              | 15.92       | 1.31           |
| Rivière Créoles Government | 163                     | 107          | 54              | 50.47       | 3....          | 136                     | 42           | 18              | 42.85       | 2.64           |
| Bois des Amourettes Aided  | 181                     | 58           | 31              | 53.45       | 3....          | 114                     | 83           | 42              | 50.60       | 3.09           |
| Grand Sable Aided          | 47                      | 17           | 10              | 58.82       | 3.23           | 48                      | 45           | 21              | 51.11       | 3.18           |
| SAVANNE                    |                         |              |                 |             |                |                         |              |                 |             |                |
| Surinam                    | 181                     | 126          | 44              | 34.91       | 2.39           | 171                     | 120          | 26              | 21.66       | 1.66           |
| Baie du Cap                | 97                      | 49           | 31              | 63.26       | 3.43           | 102                     | 50           | 26              | 52.0        | 3.06           |
| MOKA                       |                         |              |                 |             |                |                         |              |                 |             |                |
| Pailles                    | 80                      | 61           | 35              | 57.37       | 1.13           | 79                      | 50           | 22              | 44.0        | 2.42           |

The figures for Mahébourg shew a rise compared with those of the previous years. It is ascribable to the closing of Bel Air Aided School whose children now proceed to Mahébourg.

The heavy infection of Plaine Magnien, Riv: Créoles, St. Hubert, Bois des Amourettes, Grand Sable is forcibly revealed by the above table. In a previous part of this report, mention has already been made of the fact that conditions still continue to be favourable to the breeding of Anophelines in spite of the works which in the case of Riv. Créoles, St. Hubert and Bois des Amourettes have been partially carried out.

*Moka.*—Moka, one of the districts which have received the greatest share of attention in the past and where works have been carried out on a large scale, has considerably benefited. Unfortunately Pailles continues to be unhealthy owing to the conditions resulting from the bad upkeep of canals there, conditions which persist in spite of the legal action taken against the responsible parties. *A. funestus* have also been found on one occasion in the clean central channel of River St. Louis.

## MEDICAL INSPECTION OF ESTATE HOSPITALS AND INSPECTION OF CAMPS

8. In Moka, 4, in Grand Port, 16 and in Savanne, 13 estate hospitals were twice inspected during the year. Adverse criticism had to be made in respect of two only, one of which was closed on 31.12 and the other placed on a proper footing during the second half year.

The 61 estate camps were also inspected regularly and their general sanitary condition found satisfactory with the exception of one where the huts were found in a bad state of repair, the scavenging neglected and the camp overgrown. The matter has been referred to the Protector of Immigrants for consideration.



COMMUNICABLE DISEASES

9. The following table gives the number of cases notified of each disease falling under the Contagious Diseases Ordinance.

| District                     | Diphtheria |        | Typhoid |        | Erysipelas |        | Measles |        | Puerperal fever |        | Cerebrospinal Meningitis |        |
|------------------------------|------------|--------|---------|--------|------------|--------|---------|--------|-----------------|--------|--------------------------|--------|
|                              | Cases      | Deaths | Cases   | Deaths | Cases      | Deaths | Cases   | Deaths | Cases           | Deaths | Cases                    | Deaths |
| Moka - - -                   | 13         | --     | 18      | 2      | 1          | --     | 2       | --     | --              | --     | --                       | --     |
| Savanne - -                  | 2          | 2      | 16      | 2      | 3          | 2      | --      | --     | 2               | --     | 1                        | 1      |
| Grand Port, Rose Belle - - - | 1          | --     | 14      | 2      | 1          | --     | --      | --     | --              | --     | --                       | --     |
| Grand Port - -               |            |        |         |        |            |        |         |        |                 |        |                          |        |
| Mahébourg -                  | 2          | --     | 2       | --     | --         | --     | --      | --     | --              | --     | --                       | --     |

DIPHTHERIA.—Most of the cases notified in Grand Port and Moka are directly connected with the severe outbreak which took place in Plaines Wilhems. Close study of the conditions have clearly established that family and friendly connections are responsible for the epidemic. Of other factors which have been at work are : 1o the unsuspected presence of carriers ; 2o the practice followed by many practitioners of declaring their patients cured after a single negative examination.

At Mahébourg, where 5 cases occurred in the space of 5 weeks in the same family, the presence of three carriers was ascertained ; one of them developed the disease at Curepipe about a month later.\*

DYSENTERY.—As stated in a previous part of this report, deaths due to dysentery and other intestinal diseases shew a marked diminution.

Reference must however be made to two outbreaks which occurred, one at Gros Bois and the other at Deux Bras in Grand Port.

Gros Bois.—The following tabular statement gives the number of cases of diarrhoea and enteritis and dysentery recorded during each month of the year at Gros Bois.

| Disease                 | Jan.  |        | Feb.  |        | March |        | April |        | May   |        | June. |        | July  |        | Aug.  |        | Sept  |        | Oct.  |        | Nov.  |        | Dec.  |        |
|-------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
|                         | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases | Deaths |
| Diarrhoea and Enteritis | 16    | ...    | 9     | ...    | 5     | ...    | 2     | ...    | 6     | 1      | 9     | ...    | 2     | ...    | 3     | ...    | 1     | ...    | 3     | ...    | ...   | ...    | 2     | ...    |
| Dysentery               | 5     | ...    | 15    | ...    | 15    | ...    | 16    | ...    | 64    | 1      | 18    | 1      | 8     | ...    | 3     | ...    | 1     | ...    | 1     | ...    | 3     | ...    | 3     | ...    |

The source of the epidemic could, as in the case of that of 1919, be traced to the water supply, an open canal running through Mare Tabac hamlet and along the course of which cases were afterwards found to have occurred.

The appointment of watchmen by the estate was insisted upon and they and the Sanitary Inspector succeeded in establishing contravention against three inhabitants of the hamlet for either defecating or washing their soiled clothes in the canal. The heavy fines inflicted by the Magistrate resulted in the people giving up their abominable practice and the epidemic subsiding.

Deux Bras.—In May a small outbreak, some 20 or 30 cases, occurred at Deux Bras. It was evidently due to a mass infection as all the cases occurred within a fortnight. There too the water supply, an open canal, was probably to blame.

The disease, in both outbreaks, was of the amoebic type, cure rapidly following the administration of emetine.

PLAGUE.—No case was notified. A Chinaman who died of the pneumonic type in Port Louis had, it was found, spent 36 hours at Rivière des Anguilles. The shop was closed, disinfected and fumigated ; the contacts were placed under strict observation and released after the incubation period was over, the shop was only then re-opened.

MARKETS.

10.—Mahébourg has an open market which is utilised practically twice a week by occasional sellers for some 3 or 4 hours at a time.

In all three districts meat is sold in specially approved shops—control if difficult is still possible. Not so much can be said in respect of fish which is hawked in baskets and of vegetables which continue to be exposed for sale on tables under the verandahs of Chinamen's shops where they receive dust from the street. A few years ago an article in the building law was introduced which did away with the possibility of using open verandahs along high roads for the purpose. Unfortunately upon representations received from interested quarters a return to the old objectionable system was rapidly made.

\* 4 of these cases are registered under Plaines Wilhems, Curepipe, place of residence of the family.



## SLAUGHTER HOUSES

11. Government Abattoirs exist at Mahébourg and Souillac and private ones at Rose Belle, St. Pierre and Rivière des Anguilles.

The number of animals slaughtered has been as below.

| Slaughter House                           | No. of animals slaughtered |      |        |       |       |       | Fees collected                            |
|---|----------------------------|------|--------|-------|-------|-------|---|
|   | Oxen                       | Cows | Calves | Swine | Goats | Sheep |   |
| Mahébourg Govt. - - - - -                 | 423                        | 89   | 52     | 398   | 210   | 9     | Rs. 2,293.50                              |
| Souillac Govt. - - - - -                  | 309                        | 103  | 49     | - -   | - -   | - -   | 1,128.00                                  |
| Riv. des Anguilles private - - - - -      | - -                        | - -  | - -    | 104   | - -   | - -   | } Fees accrue to owner of Slaughter House |
| St. Pierre private - - - - -              | 440                        | 117  | 30     | - -   | 159   | 12    |   |
| R. Belle (Mrs. Georges) private - - - - - | 507                        | 167  | 2      | - -   | - -   | - -   |   |
| R. Belle (Ahkong) private - - - - -       | - -                        | - -  | - -    | 39    | - -   | - -   |   |
| Total -                                   | 1679                       | 476  | 133    | 541   | 369   | 21    | Rs. 3,421 50                              |

The slaughtering is in all the above mentioned establishments carried out under the control of the Sanitary Inspector, doubtful cases being referred to the Government Veterinary Surgeon.

## GENERAL SANITARY WORK

12. A summary of the work done during the year is contained in the following statement :

Notices served under—

|   |   |   |   |   |   |       |
|---|---|---|---|---|---|-------|
| Regulations 162 of 1885 (night soil)      | - | - | - | - | - | 13    |
| Ordinance 32 of 1894-95 (nuisances)       | - | - | - | - | - | 538   |
| do. do. (malaria nuisances)               | - | - | - | - | - | 127   |
| Regulations 170 of 1923 (Soil sanitation) | - | - | - | - | - | 4,327 |
| „ 198 of 1907 (Cleaning of yards)         | - | - | - | - | - | 580   |

Orders issued under—

|   |   |   |   |   |   |     |
|---|---|---|---|---|---|-----|
| Ordinance 21 of 1900 (repairs to houses etc.) | - | - | - | - | - | 269 |
|---|---|---|---|---|---|-----|

Total - - - - - 5,854

No. not complied with and prosecuted - - - - - 453

Fines imposed - - - - - Rs. 1,681.05

In addition to the above the following number of contraventions have been established under :

|   |   |   |   |   |   |     |
|---|---|---|---|---|---|-----|
| Regulations 162 of 1885 (night soil)                    | - | - | - | - | - | 69  |
| 53 of 1912 (milk)                                       | - | - | - | - | - | 63  |
| 320 of 1920 (sale of cakes, etc.)                       | - | - | - | - | - | 17  |
| 50 of 1914 (storing of food in sleeping rooms)          | - | - | - | - | - | 2   |
| 35 of 1863 (washing of clothes in rivers, canals, etc.) | - | - | - | - | - | 5   |
| 170 of 1923 (Soil Sanitation)                           | - | - | - | - | - | 443 |
| 207 of 1919 (accumulation of manure)                    | - | - | - | - | - | 13  |
| 258 of 1914 (Sale of food, cakes)                       | - | - | - | - | - | 2   |
| 216 of 1923 (trenching of faecal matter)                | - | - | - | - | - | 1   |
| 30 of 1914 (Camps)                                      | - | - | - | - | - | 4   |
| 63 of 1875 (Hawking of unwholesome food)                | - | - | - | - | - | 5   |
| 18 of 1889 (pollution of rivers)                        | - | - | - | - | - | 8   |
| 8 of 1898 (obstructing officer in discharge of duties)  | - | - | - | - | - | 2   |
| Total - - - - -   | - | - | - | - | - | 634 |

Total fines imposed by Courts - - - - - Rs. 2,136.55

The total number of visits paid by the staff to private premises in addition to the regular inspections made of the various Government institutions, slaughter houses, sugar estate camps etc. amounts to 36,403.

## ADMINISTRATION.

13. It can fairly be claimed that the amount of work done by the staff during the year has been very great. Were it not for the zeal, goodwill and sense of co-operation displayed by all, the results recorded would not have been obtained. Notwithstanding the heavy strain, the Inspectors have found it possible to attend courses of lectures on Sanitation and I have great pleasure in recording that two of my staff, Sanitary Inspector L'Etang and Sanitary Inspector Tanguy qualified at the examination held by the Royal Sanitary Institute. In tendering them here my sincere congratulations, I wish them to accept as well as every single member of the staff my warmest thanks for the assistance they have given me.

To the Director goes my high appreciation of the advice given me on many an occasion.

A. G. MASSON,  
Sanitary Warden, South.



## APPENDIX V.

## REPORT ON THE MENTAL HOSPITAL FOR THE YEAR 1924.

The total number of persons certified insane in the Colony on 31.12.1924 was 686, distributed as follows :—

|                                 | Europeans |     |     | Creoles |     |     | Indians |     |     | Chinese |     |    | Total |
|---------------------------------|-----------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|----|-------|
|                                 | M         | F   | T   | M       | F   | T   | M       | F   | T   | M       | F   | T  | Total |
| At Mental Hospital - - -        | 1         | ... | 1   | 119     | 120 | 239 | 113     | 80  | 193 | 8       | ... | 8  | 441   |
| At Barkly Mental Branch Wards - | ...       | ... | ... | 29      | 46  | 75  | 20      | 14  | 34  | 1       | ... | 1  | 110   |
| Out on probation - - -          | ...       | ... | ... | 39      | 21  | 60  | 55      | 14  | 69  | 6       | ... | 6  | 135   |
| Total -                         | 1         | ... | 1   | 187     | 187 | 374 | 188     | 108 | 296 | 15      | ... | 15 | 686   |

(i) The ratio of insane to total population is 17.69 per 10,000. It is interesting to compare this rate with the average total insane rate for European countries which is 40 per 10,000; that for England and Wales, as given by the Board of Control for the year 1923, being 34.40 per 10,000 of population.

The chief reasons for this marked difference between the Mauritian and European total insane rates seem to be: (a) the more acute struggle for life in Europe and the consequent increased worry, anxiety and privation; (b) the much greater prevalence of general paralysis of the insane in Europe, where 15 to 20 per cent of all admissions into mental hospitals suffer from this disease. In Mauritius, although syphilization and civilization are both advanced, general paralysis is practically non-existent.

(ii) The insane rate for Creoles was 34.51 per 10,000, that for Indians and Chinese being 10.92 and 17.79 respectively.

The insane rate for Creoles is, therefore, more than three times that for Indians. It would appear that the greater prevalence of insanity among Creoles is accounted for by the fact that the Creole is, as a rule, more highly strung than the Indian and is, therefore, more prone to succumb to psychic traumata than the more phlegmatic and fatalistic Indian. Again, unemployment is more rife among Creoles who, as a class, shew a natural aversion to agricultural work; hence worry and privations are more frequent etiological factors in the causation of insanity among them.

(iii) The male insane rate for all classes was 19.53 per 10,000 and the female rate 15.72.

Contrary to what happens in most countries the male insane rate in this Colony is higher than the female rate.

## HOSPITAL POPULATION.

2. The number of inmates remaining in hospital on the 31st of December 1923 and 1924 is shown hereunder :—

|                                 | 31.12.1923 |     |     | 31.12.1924 |     |     |
|---------------------------------|------------|-----|-----|------------|-----|-----|
|                                 | M.         | F.  | T.  | M.         | F.  | T.  |
| At Mental Hospital - - -        | 253        | 204 | 457 | 244        | 200 | 444 |
| At Barkly Mental Branch Wards - | 47         | 42  | 89  | 50         | 60  | 110 |
| Total - - -                     | 300        | 246 | 546 | 294        | 260 | 554 |

Of the 444 inmates of the Mental Hospital on 31.12.24, 3 were under interim detention awaiting examination by the Commissioners in Lunacy, so that the correct number of certified insane in hospital at that date was 441.

3. The following table shows the daily average number of patients during the year 1924:—

|                                  | M.     | F.     | T.     |
|----------------------------------|--------|--------|--------|
| Mental Hospital - - -            | 230.39 | 207.47 | 457.86 |
| Barkly Mental Branch Wards - - - | 53.40  | 44.10  | 97.50  |

Of the 441 patients of the Mental Hospital, 12 males and 10 females were paying patients.

## 4. Criminal Mental Patients.

|  | M   | F   | T  |
|--|-----|-----|----|
| Number of Criminal mental patients on 31.12.23 | 14  | 1   | 15 |
| Number admitted during 1924                    | 2   | ... | 2  |
| Number discharged                              | 4   | ... | 4  |
| Number who died                                | ... | 1   | 1  |
| Remaining on 31.12.24                          | 12  | ... | 12 |







These figures represent the entire number of instances in which the general causes (either alone or in combination with others) were stated to have produced the mental disorder. The excess of the aggregate of such causes over the number of patients considered 110—is owing to the combination of causes.

Admitting that not all cases of mental disease with a previous history of alcoholic excess are caused by alcohol, it is found, nevertheless, from this table, that alcohol, in comparison with other etiological causes of insanity, is still a very frequent factor in the history of our mental cases. It is to be hoped that with the new laws regulating the supply of alcoholic liquor, the number of cases of true alcoholic insanity, or of biogenetic psychoses with alcoholic intoxication as a symptom, will greatly diminish in the near future.

Cases of mental disease due to Gunjah smoking show a marked decrease since the importation and sale of the drug have been stopped by law. Whereas in 1905 out of 40 admissions there were 7 cases due to gunjah smoking, in 1923 there were 5 cases among 94 admissions and in 1924 only 1 case among 110 admissions.

I gather from a former Superintendent of the hospital that the very violent and excitable cases of mental illness he used to meet with, previous to the prohibition of the sale of gunjah, have at present practically disappeared.

#### DISCHARGES.

8. The total number of discharges during the year was 214, an increase of 15 over the number for 1923.

Table showing the classification of discharges:—

|  | M   | F   | T   |
|--|-----|-----|-----|
| Found sane after examination by Commissioners in     | —   | —   | —   |
| Lunacy - - - - -                                     | 17  | 10  | 27  |
| Found cured and finally discharged - - -             | 1   | 1   | 2   |
| Found relieved and released on probation - -         | 65  | 28  | 93  |
| Transferred to Barkly Mental Branch Wards (Chronics) | 46  | 36  | 82  |
| Transferred to Civil Hospital - - - - -              | 5   | 2   | 7   |
| Released by Magistrate at request of relatives - -   | 1   | ... | 1   |
| Released by judge of Supreme Court - - - -           | ... | 1   | 1   |
| Discharged on leave under G.N. 239/24 - - -          | ... | 1   | 1   |
| Total - - -  | 135 | 79  | 214 |

During the year, 2 harmless demented were allowed to leave the Barkly Mental Branch Wards on probation, under the care of relatives or friends.

During the year there were 95 recoveries: (93 relieved and 2 cures).

The percentage of recoveries on admissions (110 admissions plus 44 readmissions from probation) was 61.68.

84 patients (50 males, 34 females) on probation outside the hospital were found cured and finally discharged, 7 more than in 1923.

#### DEATHS.

9. In 1924 there were 37 deaths (21 males and 16 females) against 24 in 1923. Of the 37 deaths, 15 took place within a period of 3 months from admission and were mainly due to the poor state of health of the patients admitted.

The death-rate, calculated on the daily average of inmates in the Mental Hospital and the Mental Branch Wards, was 6.66%, 0.25% less than the average death-rate for the past 7 years. The death-rate here compares very favourably with the average death-rate for all Mental Hospitals in England and Wales, which was 8.89% in 1922 and 7.7% in 1923.

10. The following table gives the number and causes of death during 1923 and 1924.

| Causes of death                          | 1923 | 1924 |
|--|------|------|
| Tuberculosis - - - - -                   | 7    | 6    |
| Debility and asthenia - - - - -          | 6    | 2    |
| General paralysis of insane - - - - -    | 3    | 0    |
| Senility - - - - -                       | 3    | 8    |
| Epilepsy and its complications - - - - - | 1    | 4    |
| Acute delirious mania - - - - -          | 0    | 2    |
| Lymphangitis - - - - -                   | 1    | 0    |
| Cellulitis - - - - -                     | 0    | 1    |
| Pneumonia - - - - -                      | 1    | 3    |
| Heart disease - - - - -                  | 0    | 2    |
| Dysentery and enteritis - - - - -        | 2    | 5    |
| Bright's disease - - - - -               | 0    | 1    |
| Meningitis - - - - -                     | 0    | 1    |
| Cerebral tumour - - - - -                | 0    | 1    |
| Asphyxia and syncope - - - - -           | 0    | 1    |
| Total - - -                              | 24   | 37   |

It will be seen from the above table that the increase of deaths in 1924 was due mostly to senility, epilepsy, and dysentery.



Tuberculosis and debility and asthenia showed a decrease, especially the latter, deaths from which fell from 25 to 6% of total deaths. The lowered mortality from debility and asthenia is most probably due to the fact that all patients are now weighed every month and their diets regulated in accordance with their weights.

PREVALENCE OF SICKNESS.

11. The following table gives the number of cases treated in both infirmaries and the daily average of sick for the years 1923 and 1924.

|  | 1923  |       |       | 1924  |       |       |
|--|-------|-------|-------|-------|-------|-------|
|  | M     | F     | T     | M     | F     | T     |
| No. of cases treated in Infirmaries -    | 226   | 179   | 405   | 191   | 152   | 343   |
| Daily average of sick in Infirmaries -   | 14.48 | 14.24 | 28.72 | 11.58 | 11.17 | 22.75 |
| Sick rate on daily average in hospital - | ...   | ...   | 5.15% | ...   | ...   | 4.09% |

12. Table of monthly admissions into the two infirmaries, total stay, and average stay per patient for the years 1923, 1924 :—

| Year 1923                  |                |                  |       | YEAR 1924                  |                |                  |       |
|----------------------------|----------------|------------------|-------|----------------------------|----------------|------------------|-------|
| Months                     | Male Infirmary | Female Infirmary | Total | Months                     | Male Infirmary | Female Infirmary | Total |
| January -                  | 18             | 16               | 34    | January -                  | 16             | 13               | 29    |
| February -                 | 20             | 15               | 35    | February -                 | 14             | 20               | 34    |
| March -                    | 20             | 16               | 36    | March -                    | 20             | 12               | 32    |
| April -                    | 12             | 20               | 32    | April -                    | 15             | 13               | 28    |
| May -                      | 32             | 21               | 53    | May -                      | 20             | 12               | 32    |
| June -                     | 16             | 11               | 27    | June -                     | 10             | 9                | 19    |
| July -                     | 19             | 10               | 29    | July -                     | 23             | 23               | 46    |
| August -                   | 16             | 14               | 30    | August -                   | 7              | 5                | 12    |
| September -                | 28             | 17               | 45    | September -                | 15             | 12               | 27    |
| October -                  | 17             | 12               | 29    | October -                  | 17             | 11               | 28    |
| November -                 | 16             | 10               | 26    | November -                 | 21             | 9                | 30    |
| December -                 | 12             | 17               | 29    | December -                 | 13             | 13               | 26    |
| Total -                    | 226            | 179              | 405   | Total -                    | 191            | 152              | 343   |
| Total Stay -               | 5,133          | 3,801            | 8,934 | Total Stay -               | 2,767          | 2,874            | 5,641 |
| Average stay per patient - | 22.71          | 21.23            | 22.05 | Average stay per patient - | 18.90          | 18.90            | 16.44 |

13. Monthly admissions into both Infirmaries for the commoner diseases :

| Diseases       | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|----------------|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|-------|
| Epilepsy -     | 9       | 2        | 2     | 3     | 11  | 2    | 4    | 2      | 7         | 3       | 4        | 7        | 56    |
| Influenza -    | ...     | 9        | 1     | ...   | ... | 1    | 27   | 3      | 2         | 4       | 1        | 2        | 50    |
| Abscess -      | 4       | 2        | 3     | 1     | 2   | 3    | 3    | ...    | 2         | 3       | 2        | 2        | 27    |
| Malaria -      | 3       | 6        | 10    | ...   | 3   | ...  | 1    | ...    | 1         | 1       | ...      | ...      | 25    |
| Bronchitis -   | ...     | ...      | ...   | ...   | ... | ...  | 4    | 3      | 2         | 2       | 1        | ...      | 12    |
| Dyspepsia -    | 1       | 2        | 1     | ...   | ... | ...  | 1    | 3      | ...       | 1       | 2        | 1        | 12    |
| Gastritis -    | 4       | 2        | ...   | 1     | ... | ...  | 1    | 1      | ...       | 2       | ...      | ...      | 11    |
| Tuberculosis - | 2       | ...      | 2     | ...   | ... | ...  | ...  | ...    | 1         | 1       | 2        | 1        | 9     |
| Asthma -       | ...     | ...      | ...   | ...   | ... | 2    | 1    | 2      | ...       | 2       | 1        | 1        | 9     |
| Pneumonia -    | ...     | ...      | 1     | ...   | 1   | ...  | 2    | ...    | 1         | 2       | 1        | ...      | 8     |
| Dysentery -    | 1       | 1        | 1     | ...   | 1   | 1    | 1    | ...    | 1         | ...     | 1        | ...      | 8     |

The above tables show that sickness was much more prevalent in 1923 than in 1924. Malaria, for instance, was more rife ; the number of cases admitted being 70 in 1923 and 25 in 1924. Strict antimalarial measures were taken during 1924, among these being the wire netting of all the windows of the institution.

During the year there was a marked reduction in the average stay, per patient, in the Infirmaries, as compared with 1923.

GENERAL OBSERVATIONS.

STAFF.

14. I took charge of this institution on March the 4th, 1924. In November 1924 an Assistant Medical Superintendent was appointed.



A trained Matron from England, possessing the Medico-Psychological Association Certificate is expected shortly.

There is a marked shortage of nursing staff; 2 female nurses are available for 205 female patients.

Most of the nursing staff are untrained; arrangements are being made to remedy this defect. Of male attendants 37 out of 54 are at present available.

#### IMPROVEMENTS.

15. A general report embodying the requirements of the hospital was sent to Government in April 1924 and is now under consideration. Admission hospitals, epileptic wards, convalescent villas, private wards, a pathological laboratory, workshops, clinical rooms, apparatus for continuous warm baths are some of the suggestions made.

#### TREATMENT.

16. Considering the importance of early treatment in mental disease, it is to be regretted that of those suffering from mental disorder for the first time, less than half the number came under hospital treatment within three months of the attack. It is not at all uncommon to get cases that have repeatedly consulted "sorciars" before seeking medical aid, thus wasting most valuable time. This belief in witchcraft, although fairly common among the poorer members of the community is, I am sorry to say, at times met with in their more fortunate brethren. The public should understand that insanity is no work of the devil, that the stigma attached to the insane is a product of petty-minded folk, and that the earlier in its onset a case of mental disease is scientifically dealt with, the greater are the chances of the patient's recovery.

For the treatment of excited states continuous warm baths of a sort have been introduced whilst awaiting proper baths and water heating plant from England.

A good number of maniacal patients with a positive Wassermann reaction have very much benefited by Neotrepol (Bismuth) injections. No opportunity has so far presented itself for the application of the malaria treatment in general paralysis of the insane. It is a noteworthy fact that cases of parenchymatous syphilis are very rare among patients of this hospital.

Psychotherapy has also been introduced but the mental equipment of the average patient of this institution does not lend itself to an easy application of this form of treatment. In two cases of neuroses, psychoanalysis gave good results.

Luminal was extensively used in the treatment of epilepsy with very gratifying results.

#### OCCUPATIONAL TREATMENT.

17. It is a pity that no workshops are at present available for occupational and curative treatment, especially for the use of Creoles who have a natural distaste for agricultural pastimes. During the year an average of 23 Indian patients attended daily to the kitchen gardens which supply a good deal of the vegetables consumed by the inmates.

All the laundry of the hospital was done by female patients, this being a good source of revenue to the institution. Ward work, upkeep of the hospital grounds, kitchen work and darning gave employment daily to an average of 58 patients. The estimated value of the work done by patients during 1924 was Rs. 15,484.16, an increase of Rs. 2,408.14 over the 1923 earnings.

#### RECREATION.

18. Since May 1924, the Police Band, by the kind permission of the Inspector General of Police, plays once a month at the hospital. During the year patients were given three treats consisting of cakes, lemonade, fruit &c. A cinematograph performance was also given on each occasion. Draughts, dominoes, cards are allowed; and newspapers, provided by people interested in their welfare, are given to those patients who can and care to read them. Gramophone music was played most Sundays. In the female department the piano was frequently used by patients and their friends.

#### LAW CHANGES.

19. Government Notification No. 239 was published in September 1924, permitting patients to go out of the precincts of the hospital for the purpose of recreation. Suitable patients are also allowed home for a period not exceeding four days.

In September 1924 the name of the Institution was changed from "Lunatic Asylum" to "Mental Hospital" and the term "lunatic" altered to "mental patient."

#### VISITS.

20. His Excellency the Governor visited the hospital on 10.2.24. During the year the Central Board of Commissioners in Lunacy held eleven meetings and visited the institution on each occasion.

#### CONCLUSION.

21. To conclude I wish to thank the Hon. the Director Medical and Health Department for his keen interest and help in furthering the welfare of the unfortunate patients of this hospital. It is also a pleasure to me to acknowledge the help received from the members of the Central Board, particularly from Mr. Magistrate Legras who has been most helpful in giving us the advantage of his experience in legal and other matters.

Beau Bassin,  
25.2.25.

J. D. DYSON,  
M.B., B.S. Lond.; D.P.M.  
Medical Superintendent, Mental Hospital.



## APPENDIX VI

## REPORT OF THE BACTERIOLOGICAL LABORATORY FOR THE YEAR 1924.

The number of specimens and articles received for examination at the Bacteriological Laboratory during the year 1924 totalled 4,012, an increase of 998 on the number for the preceding year. The figures for the last five years show the marked and steady rise that has taken place in the amount of work done at this Institution, a measure of the growing appreciation of its usefulness on the part of Government Departments and the public. These figures are as under :

|         |     |       |
|---------|-----|-------|
| In 1920 | ... | 1,311 |
| 1921    | ... | 1,776 |
| 1922    | ... | 1,850 |
| 1923    | ... | 3,014 |
| 1924    | ... | 4,012 |

For the sake of convenience the same classification is adopted in this as in previous reports. The subjects are accordingly grouped under the following heads :

## I.—CLINICAL

Samples coming under this head, exclusive of vaccines, amounted to 2,478. Of these, 158 were submitted to bacteriological examination involving cultures and inoculation tests when necessary. The materials dealt with comprised blood, throat and nasal swabs, sputum, pus, cerebrospinal, synovial, ascitic and pleural fluids, human milk, stomach washings, urine, faeces &c.,

(a) *Blood*.—949 samples were received.

*Malaria*.—140 films were examined for this disease. Parasites were found in 12 as follows :

Subtertian in 5 ; Tertian in 3 ; Quartan in 4.

This is by no means an index of the prevalence of malaria in the Colony as a laboratory examination is usually resorted to only in obscure cases and frequently after quinine has been taken by the patient.

*Filariasis*.—22 films were examined for filaria embryos.—*Microfilaria Bancrofti* was present in 6 cases.

*Typhoid and the Paratyphoids*.—These diseases accounted for 207 samples—146 of these were tested for typhoid agglutinins and 2 for paratyphoid A and B., by Widal's method with positive results for typhoid in 52 cases. The paratyphoid reactions were negative. Blood culture on bile-salt broth gave positive findings as to typhoid with 19 samples and paratyphoid with one.

*Syphilis*.—465 samples were submitted to the Bordet-Wassermann complement-fixation test ; positive findings were obtained with 128 and doubtful ones with 37—During nearly the whole year an antigen prepared from ox heart was used concurrently with the usual human heart antigen and gave absolutely concordant results.

*Blood counts*.—55 differential leucocyte counts were made. Also 4 white-cell and one red-cell counts.

*Blood Urea*.—The urea-value was determined in the case of 55 samples.

*Bacteriological Examinations*.—Of the 59 cases in which a blood culture was made :

|    |   |
|----|---|
| 19 | yielded bac. typhosus (Eberth)          |
| 4  | „ Streptococci                          |
| 2  | „ Staphylococci                         |
| 1  | „ bac. coli communior                   |
| 1  | „ bac. paratyphosus (type undetermined) |

(b) *Throat and Nasal Swabs* were received on 170 occasions. Loeffler's diphtheria organism was found on 71 and Vincent's fusiform bacillus on 28.

(c) *Sputum*.—Samples examined : 259, principally for Koch's tubercle bacillus which was found in 69 cases, concentration methods being used whenever desirable.

(d) *Pus*.—Number of samples ; 61. They were derived from purulent collections or were specimens of chancrous exudation or of ear, urethral or vaginal discharges. Five showed gonococci on microscopical examination while of 23 that were cultured :

|    |                            |
|----|----------------------------|
| 12 | gave Staphylococci         |
| 5  | „ Streptococci             |
| 1  | „ a Gram-Negative bacillus |
| 1  | „ bac. coli communior      |
| 1  | „ bac. pyocyaneus          |
| 3  | were sterile.              |



(e) *Cerebrospinal Fluid*.—Specimens received 53, of these 16 were examined microscopically only: 2 showed meningococci and one pneumococci. A leucocyte count was made in the case of 2 others and a differential count with another. Nine were subjected to the Nonne-Appelt test and another nine to the Wassermann reaction with positive results in 2 cases. In another case the colloidal gold reaction was applied and proved positive while two samples were also tested for the presence of albumin.

(f) *Ascitic Fluid*.—A sample was cultured but was found bacteria-free.

(g) *Pleural Effusion*.—Two samples were cultured with unsatisfactory results owing to probable contamination previous to reception.

(h) *Synovial Fluid*.—Specimens received 3, all of which were sterile.

(i) *Stomach Washings* were quantitatively analysed in one case for free Hydrochloric acid and chlorides.

(j) *Human milk*.—Two examinations were made at the request of medical practitioners to estimate the nutritive value and for evidence of pathological conditions.

(k) *Spleen and Gland Pulp*.—16 smears were received from suspicious cases, 7 of which showed plague bacilli.

(l) *Neoplasms*.—14 specimens were cut and examined—whenever the materials were suitable Dr. Simpson's (of Buffalo U. S. A.) rapid method was employed with success. They were specimens of

Squamous epithelioma of skin  
Gliosarcoma of retina  
Carcinoma of breast  
Uterine fibroma  
Chronic metritis  
Uterine tubercle  
Chronic hyperplasia of spermatic cord  
Subcutaneous tubercle of the neck  
Uterine Myoma  
Lymphangioma  
Fibro-cystic Adenoma  
Pigmented mole of the face  
Normal salivary gland  
Fungating ulcer of finger

The tubercular growth of the uterus appeared as a roundish tumour projecting into the cavity of the organ from the mucous membrane which was also the seat of adenomatous formations.

The hyperplastic condition of the spermatic cord was clearly inflammatory in character and possibly of filarious origin.

In the case of the last item on the list, the specimen was a piece of tissue from the edge of a fungating ulcer of the finger in which leprosy was suspected. Neither lepra bacilli nor treponema were discovered.

(m) *Fæces*.—501 samples—Amœbæ were present in 113 as hereunder:—

|                      |            |
|----------------------|------------|
| Amœba histolytica in | 38 samples |
| Amœba coli           | 20 „       |
| Entamoeba nana       | 4 „        |
| Type undetermined    | 34 „       |

The following entozoa were also found in the course of these examinations:

|                            |             |
|----------------------------|-------------|
| Trichuris trichiura in     | 326 samples |
| Ascaris lumbricoides       | 126 „       |
| Ankylostoma                | 88 „        |
| Blastocystis               | 60 „        |
| Lamblia                    | 58 „        |
| Strongyloides intestinalis | 25 „        |
| Trichomonas                | 24 „        |
| Oxyuris                    | 4 „         |
| Coccidia                   | 1 „         |



Three samples were cultured two of which showed bacillus typhosus. The third which was the secretion from a faecal fistula yielded bac. coli communis.

A fresh case of human intestinal coccidiosis came under observation. As in the case referred to in the report for 1923 the patient was affected with recurrent attacks of diarrhoea but the stools also contained numerous blastocystis. The coccidia were of the genus isospora, with oocysts and sporocysts of larger size than in the previous case, approximating in their dimensions those of isospora felis. This patient had never left the Colony and there was a suspicion of the infection having been derived from a pet cat.

(n) *Urine*.—447 analyses were made. Most of these consisted of the usual routine procedures, chemical or microscopical, but in 66 cases in which the samples were drawn with aseptic precautions, the centrifuged sediments were cultured and yielded :

|                       |          |
|-----------------------|----------|
| Bac. Coli Communis in | 19 cases |
| „ „ Communior         | 10 „     |
| Staphylococci         | 10 „     |
| Streptococci          | 1 case   |
| Bac. paratyphosus     | 1 „      |
| „ lactis ærogenes     | 1 „      |

Microscopical examination also showed :

|                                   |             |
|-----------------------------------|-------------|
| Eggs of schistosoma hæmatobium in | 3 specimens |
| Microfilaria                      | 2 „         |
| Trichomonas                       | 2 „         |
| Hyaline casts                     | 28 „        |
| Granular casts                    | 14 „        |
| Cellular casts                    | 1 „         |

Owing to the absence of proper precautions in collecting, it was not possible to determine whether the trichomonas came from the urinary tract or were the results of contamination.

## II.—VACCINES

A. *Prophylactic Vaccines*.—Anti typhoid and T. A. B. Vaccines were prepared as before and issued free of charge. The demand for both vaccines was very much smaller, applications standing at 276 and 15 respectively against 866 and 180 in 1923.

B. *Therapeutic Vaccines*.—The following autogenous vaccines were prepared at the request of medical officers and private practitioners :

|                 |  |   |   |   |    |
|-----------------|--|---|---|---|----|
| From blood with | bac. typhosus                              | - | - | - | 16 |
| „               | „ streptococci                             | - | - | - | 3  |
| „               | „ bac. coli communior                      | - | - | - | 1  |
| „ Urine         | „ bac. coli communis                       | - | - | - | 16 |
| „               | „ bac. coli communior                      | - | - | - | 11 |
| „               | „ staphylococci                            | - | - | - | 5  |
| „               | „ streptococci                             | - | - | - | 2  |
| „               | „ bac. paratyphosus                        | - | - | - | 1  |
| „               | „ lactis ærogenes                          | - | - | - | 1  |
| „ Pus           | „ Staphylococci                            | - | - | - | 10 |
| „               | „ Streptococci                             | - | - | - | 4  |
| „               | „ bac. coli communior                      | - | - | - | 1  |
| „               | „ bac. pyocyaneus                          | - | - | - | 1  |
| „ Fæces         | „ bac. typhosus                            | - | - | - | 1  |
| „               | Fistular secretion with bac. coli communis | - | - | - | 1  |
| „               | Nasal secretion with Staphylococci         | - | - | - | 1  |

Filtered vaccines were also made from laboratory cultures of Staphylococci and Streptococci by Besredka's method for use in the form of local applications in pyogenic infections.

## III.—PUBLIC HEALTH

A total of 1,008 samples of foods and drugs were chemically analysed during the period covered by this report as compared with 385 in 1923 and 158 in 1922. This alone is a measure of the growing importance of the Chemistry Division of this Institution.



The substances received for analysis consisted of :

|                  | No. of samples | No. of cases | From whom received                                   |
|------------------|----------------|--------------|--|
| Milk...          | 916            | 916          | Sanitary Authorities, Law Courts, Govt. Institutions |
| Opium            | 59             | 14           | Police Department                                    |
| Gandia           | 14             | 5            | Treasury, Customs                                    |
| Butter           | 6              | 6            | Government Institutions                              |
| Sardines in oil  | 6              | 2            | Sanitary Authorities                                 |
| Rum              | 5              | 2            | Police   |
| Porter           | 4              | 2            | Treasury   |
| Wine             | 1              | 1            | Sanitary Authorities                                 |
| Sweets           | 1              | 1            | do.  |
| Cider            | 1              | 1            | Treasury   |
| Fermented fruits | 1              | 1            | do.  |

In addition 14 samples of water were examined for their bacterial contents and one sample both chemically and bacteriologically.

Twelve of these were from the Mare-aux-Vacoas for the monthly control of that source of supply. The three others were from La Nicolière, the Bois Rouge Canal and the S/S Crawford Castle; they were made at the request of the Director of Public Works, the Sanitary Authority for Rivière du Rempart district and the Agents of the vessel respectively.

Spleen smears from 312 rats were examined for the M.O.H. Plaines Wilhems, in 77 of which plague bacilli were found.

#### IV.—MEDICO-LEGAL.

The articles of evidence, organs, substances &c, referred for examination by the Judicial Authorities at the request of Police Officers numbered 125 against 180 in 1923.

They related to the following offences :

|                       |    |    |                         |
|-----------------------|----|----|-------------------------|
| Rape                  | -- | -- | 52 articles in 12 cases |
| Poisoning             | -- | -- | 24 " 8 "                |
| Murder                | -- | -- | 16 " 4 "                |
| Sodomy                | -- | -- | 6 " 2 "                 |
| Illicit distillation  | -- | -- | 10 " 3 "                |
| Bestiality            | -- | -- | 5 " 1 "                 |
| Larceny with wounding | -- | -- | 5 " 1 "                 |
| Assault               | -- | -- | 2 " 1 "                 |
| Wounds and blows      | -- | -- | 2 " 1 "                 |
| Malpraxis             | -- | -- | 2 " 1 "                 |
| Infanticide           | -- | -- | 1 " 1 "                 |

These examinations revealed nothing of special interest.

#### V.—RESEARCH.

Work done under this head included a continuation of investigations previously undertaken on :

1. Intestinal coccidiosis of man, mammals and reptiles.
2. The colouring matter of a species of marine holothurium ;

and work commenced during the year on :

3. The papain value of Mauritius papaws and keeping properties of green papaws under cold-storage conditions.
4. A fatal disease of monkeys in captivity characterised by spinal manifestations.
5. The application of filtered vaccines to therapeutic uses.

#### VI—ADMINISTRATIVE.

The fees collected at the Laboratory in 1924, irrespective of sums paid at the Central Office or to the Treasury, for work done on behalf of private parties amounted to Rs. 7,235.63. Mr. E. Maya, Assistant Bacteriologist, returned from study leave and resumed the duties of his office on November 1st.

The appointment of an extra-student received the sanction of Government during the year so that the number of students in training was raised from three to four.

REDUIT,  
March 5th, 1925.

L. G. BARBEAU,  
Superintendent and Govt. Analyst.



## APPENDIX VII.

## SCHOOL MEDICAL INSPECTION IN PORT LOUIS.

The following schools were inspected during the 1st half year :—

| Name                               | No. of pupils examined |
|------------------------------------|------------------------|
| 1. Champ de Lort Govt.             | 295                    |
| 2. Central Girls' Govt.            | 160                    |
| 3. Western Suburb Govt.            | 246                    |
| 4. Eastern Suburb Govt.            | 124                    |
| 5. Eastern Suburb Govt. (Infants') | 182                    |
| 6. Immaculée Conception Aided      | 302                    |
| 7. Arsenal Street                  | 226                    |
| 8. Roche Bois Govt.                | 60                     |
| 9. Signal Mountain Aided           | 195                    |
| 10. Loreto Convent                 | 166                    |
| 11. Soonee Soortee                 | 208                    |
| 12. Cœur de Jésus                  | 299                    |
| 13. St. Vincent de Paul            | 193                    |
| 14. Père Laval                     | 42                     |
| 15. St. Joseph, E. S.              | 199                    |
| Total                              | 2,897                  |

The number of pupils examined amounted to 2,897 as against 1,977 for the second half year 1923.

The principal diseases noticed were :—

|                      | 1st half year 1924<br>No. of cases | 2nd half year 1923<br>No. of cases |                      | 1st half<br>year 1924<br>No. of cases | 2nd half<br>year 1923<br>No. of cases |
|----------------------|------------------------------------|------------------------------------|----------------------|---------------------------------------|---------------------------------------|
| Pediculosis          | 202                                | 68                                 | Bad teeth            | 194                                   | 202                                   |
| Scabies              | 19                                 | 36                                 | Rickets              | Nil                                   | Nil                                   |
| Skin diseases        | 59                                 | 21                                 | Malaria              | 193                                   | 223                                   |
| Defective eyesight   | 25                                 | 23                                 | Ankylostomiasis      | 231                                   | 226                                   |
| Ear troubles         | 36                                 | 66                                 | Schistosomiasis      | 10                                    | 5                                     |
| Tonsils and Adenoids | 37                                 | 42                                 | Other worm infection | 342                                   | 129                                   |

The number of spleens found : "Small," 65 ; "Medium," 92 ; "Large," 36.

The above figures show an increase in the number of children suffering from pediculosis, skin diseases, schistosomiasis, ankylostomiasis and other worm infection, and a decrease as regards scabies, ear troubles, tonsils and adenoids and malaria.

202 children were found with lice as against 68 for the second half year 1923. The increase is very great and the reason for it may, with certainty, be put down to carelessness on the part of the parents. In order to put a stop to such a very unsatisfactory state of things, the head teachers should be requested by the Superintendent of Schools not to admit into their schools children suffering from pediculosis and I may also add scabies.

The figure for ankylostomiasis shows a slight increase over the figure for the last half year, but it must be borne in mind that under this heading are included all cases of anæmia due to malaria, general debility, defective development, worm infection and poverty.

The figure for schistosomiasis and other worm infection shows a marked increase over that for the last half year. The figure for schistosomiasis still shows a very small percentage when compared with the number of children examined (2897).

193 pupils were found with enlarged spleen, giving a spleen rate of 6.6 % as against 11.2 for the last half year. The figure for 1922 was 21.3 %.

The average spleen is 1.3 as against 1.5 for the last half year. The figure for 1922 was 2.2. This continued and marked decrease in the spleen rate and average spleen of the children is very encouraging and speaks for itself.

The following schools were inspected during the 2nd half year :

| Name                                  | No of pupils<br>examined |
|---------------------------------------|--------------------------|
| 1. La Paix Street Aided               | 164                      |
| 2. Ste. Croix Aided                   | 70                       |
| 3. Soonee Soortee Aided               | 221                      |
| 4. Jean Lebrun Aided                  | 109                      |
| 5. Grand River North West Govt.       | 58                       |
| 6. Cassis Road Govt.                  | 228                      |
| 7. Jean Baptiste de la Salle (Aided)  | 412                      |
| 8. Vallée des Prêtres Govt.           | 117                      |
| 9. Central Boys' Govt.                | 212                      |
| 10. Bon Secours Aided                 | 191                      |
| 11. St. Joseph (Brabant Street) Aided | 165                      |
| Total                                 | 1,947                    |



The number of pupils examined amounted to 1,947 as against 2,897 for the first half year ended June 1924.

The principal diseases noticed were :—

|                          | 2nd half year 1924 |            | 1st half year 1924 |
|--------------------------|--------------------|------------|--------------------|
|                          | No. of cases       | Percentage | Percentage         |
| 1. Pediculosis           | .. 142 or          | 7.2        | 6.9                |
| 2. Scabies               | ... 13 or          | .6         | .6                 |
| 3. Skin diseases         | ... 45 or          | 2.3        | 2.3                |
| 4. Defective eyesight    | ... 35 or          | 1.7        | 1.2                |
| 5. Ear troubles          | ... 47 or          | 2.4        | 1.2                |
| 6. Tonsils and Adenoids  | ... 53 or          | 2.7        | 1.2                |
| 7. Bad teeth             | ... 406 or         | 20.8       | 16.6               |
| 8. Malaria               | ... 137 or         | 7.0        | 6.6                |
| 9. Ankylostomiasis       | ... 340 or         | 17.4       | 8.0                |
| 10. Schistosomiasis      | ... 39 or          | 2.0        | .3                 |
| 11. Other worm infection | ... 482 or         | 24.7       | 11.8               |

The spleen index showed as follows :—

Small : 62. Medium : 54. Large : 23.

The above figures as regards pediculosis, scabies and skin diseases are practically the same as those for the first half year 1924. The percentage, for those affections, is small considering the class of the population to which those children belong.

The figures for ear troubles, tonsils and adenoids show an increase of 50% when compared with those of last year. The increase, in my opinion, is attributable to influenza which prevailed amongst the school children during the winter months of last year. The percentage in each case is however small being 2.4 and 2.7% respectively.

The figure for ankylostomiasis (17.4) shews a decided increase over the figure for the last half year (8%), but it must be remembered that this heading is very variable and comprises all cases of anæmia whether caused by malaria, ankylostomiasis, other worm infection, general debility, defective development or poverty. The real percentage can only be obtained by the microscopical examination of the faeces.

The figure for schistosomiasis shews a marked increase over the figure for the last half year. The percentage (2%) is still small but the increase is significant.

137 of the pupils were found with enlarged spleen, giving a spleen rate of 7% as against 6.6 for the last half year. The figure shows a small increase of .4.

The figure for the average spleen is the same as that for the last half year, 1.3.

#### HYGIENE AND SANITATION.

*Water Supply.*—The water for drinking purposes is obtained from Grand River North West and Bathurst Canal and does not go through any process of purification before it is given to the pupils.

*Buildings.*—The buildings are, as I have already stated in my former reports, private residences altered and modified to a certain extent so as to be used as schools. Most of them do not answer the purpose for which they are used.

*Accommodation.*—Inadequate in practically all the schools.

*Ventilation.*—The number of windows and doors is, as a rule, sufficient, but ventilation is very often interfered with owing to their being closed on account of the wind or sun.

*Lighting.*—Defective generally, if not in all the rooms, at least in some of them.

*Latrine System.*—The latrines of 8 schools, situated in the central part of Port Louis, are provided with the drainage system. The buildings are, as a rule, clean and well kept. The only drawback is that water which is so necessary for that system of disposal, is stopped for about two hours during the course of the day and as a natural consequence, faecal matter accumulates in the receptacle, creating a nuisance which only disappears after water has been restored.

The latrines of 12 schools in the urban part of Port Louis are provided with the tub or pail system.

The latrines of 5 schools situated in the extra urban part of Port Louis are provided with the pit system. This, in my opinion, is an improvement on the tub or pail system. The buildings are clean and well kept and up to now, that system seems to give satisfaction.

The buildings at some of the schools are defective and not fly-proof.

F. L. KEISLER,  
Medical Inspector of Schools, Port Louis.



## APPENDIX VIII

## REPORT OF THE SANITARY ENGINEER

HON. DIRECTOR,

I have the honour to submit my report on the works carried out during the year 1924. At the outset, I wish to point out that I was accompanied by you practically all the year round on the inspections of several works which have been carried out, as well as on those in course of execution, and have invariably been favoured with your valuable advice.

The following works have been carried out :—

1. In the town of Port Louis, 332 water nuisances caused by defective gutters, gargouilles, drains, etc., have been abated. This figure shows a marked decrease on the previous year.
2. A central circular concrete drain was laid in part of Trichinapooly stream.
3. An old standing serious water nuisance under the paved part of Caudan Basin was abated. Extensive repairs to the central concrete channel in Ruisseau des Créoles have been started, but this work is not yet completed.
4. Plans were made, and assistance given to the Medical Officers of Health and Sanitary Wardens in connection with Anti-malarial works all over the Island.
5. Plans were made and levels taken in view of the extensive Anti-malarial works round Candos Mountain. These works were carried out under my direct supervision.
6. Plans were also made and levels taken in view of the drainage of the marshy land near the old Slaughter House at Curepipe where *Anopheles* larvæ were found by Dr. Mac Gregor. These works are still to be completed.
7. Plans for the drainage of the mouth of River du Poste on Providence Estate were also made. As a result of a visit to the locality by Sir Hesketh Bell and yourself, these works are now being carried out by the Public Works Department.
8. In addition to the above, and in connection with anti plague measures, I have had to value a number of infected buildings, in view of their destruction, and payment of compensation to the owners.
9. I have also started the surveys of common lodging houses in Port Louis in view of their registration under the law.
10. A plan for ensuring light and ventilation through the roof of the haberdashery stalls at the Central Market was designed by me, with the result that skylights have been fixed by the Municipality of Port Louis.

F. J. PARSONS,  
Acting Sanitary Engineer.



APPENDIX IX.

STAFF

Director : T. B. Gilchrist, M.D. ; M.B. ; C.M. ; D.P.H. ; F.R.F.P. & S.  
 Assistant Director : F. J. R. Momplé, M.B. ; C.M. ; D.P.H.  
 Medical Officer of Health, Port Louis : J. Balfour Kirk, M.B. ; Ch. B. ; D.P.H. ; D.T.M. & H.  
 Medical Officer of Health, Plaines Wilhems : R. O. Sibley, M.D. ; M.R.C.S. ; L.R.C.P. ;  
 D.P.H. ; D.T.M. & H.  
 Superintendent, Bacteriological Laboratory & Govt. Analyst : L. G. Barbeau, M.B. ; C.M. ;  
 D.P.H.  
 Sanitary Warden (Northern Districts) : A. C. d'Arifat, L.R.C.P. : M.R.C.S.  
 Sanitary Warden (Southern districts) : A. G. Masson, M.B. ; Ch. B.  
 Port Health Officer & Medical Inspector of Port Louis Schools : F. L. Keisler, L.R.C.P.  
 & S. ; L.F.P. & S. ; D.P.H.  
 Superintendent, Mental Hospital : J. D. Dyson, M.B. , B.S., D.P.M. ; M.R.C.S. ; L.R.C.P.  
 (Embarked on 30.1.24 and assumed duty on 4.3.24) (L. Vinson, M.D. provisional  
 to 3.3.24).  
 Asst. Superintendent, Mental Hospital : R. Laventure, M.D. (Appointed 27.11.24, resigned  
 28.2.25) (Dr E. Portal, L.R.C.P. & S. ; re-employed, instead, provisionally from 1.3.25)  
 Superintendent, Civil Hospital : F. A. Rouget, M.D. ; O.B.E.  
 Resident Surgeon, Civil Hospital : G. Sénèque, M.D.  
 Superintendent, Victoria Hospital : E. L. de Chazal, M.D.  
 Resident Medical Officer, Victoria Hospital : W. R. Dupré, L.R.C.P. and S.  
 Police and Prison Surgeon, Port Louis and District (Govt.) Medical Officer and Sanitary  
 Authority for Black River : Ph. de Chaumont, M.B. ; B.S. ; M.R.C.S. ; L.R.C.P.  
 Govt. Medical Officer, Plaines Wilhems : E. F. Bour, L.R.C.P. ; M.R.C.S. ; L.S.A.

DISTRICT MEDICAL OFFICERS.

(GOVT. MEDICAL OFFICERS HAVING CHARGE OF A DISTRICT HOSPITAL AND OF ALL THE DISPENSARIES  
 IN THEIR DISTRICT).

Pamplémousses : J. H. André, L.R.C.P. ; M.R.C.S. (acting).  
 Rivière du Rempart : S. Piarroux, L.R.C.P. and S. ; L.F.P. and S.  
 Flacq : H.G. Lamberty, L.R.C.P. and S. ; L.F.P. and S.  
 Grand Port : A.Y. Cantin, M.R.C.S. ; L.R.C.P. ; D.T.M.  
 Savanne : B.A. Sinnatambou, L.R.C.P. and S. ; L.F.P. and S.  
 Moka : G.A. Léclézio, M.R.C.S. ; L.R.C.P. ; D.P.H. (Dr. Léclézio is relieved from charge of  
 Pailles Dispensary).

INDIAN MEDICAL OFFICERS.

Officer in charge of Port Louis Dispensaries : D. I. Abraham, L.M.F. (on three years,  
 agreement terminating in April, 1925).  
 Officer in charge of Pailles Dispensary and Relief Officer : P. C. Sengupta, L.M.F.  
 (Appointment terminated from 1.6.24 for grave incompetency).

SPECIAL.

Honorary Officer in charge of Tuberculosis Dispensary, Civil Hospital : E. Rama, M.D.



## APPENDIX X

## MEDICAL PRACTITIONERS

During 1924, the undermentioned Medical Practitioners produced their diplomas at the office and were authorized to practise Medicine and Surgery in the Colony under Ordinance No. 22 of 1869 :—

Camaralzama Camal Boudou—M.B. ; B.S. (Edinburgh)—1923.

C. Edgard Millien—M.D. (Lyon)—1924.

Major R. F. Dickinson, R.A.M.C.—L R.C.P. & S. (Ireland) 1905 ; D.P.H.—1908 ;  
M.B. ; Ch.B. (Ireland)—1913.

M. C. A. Irlande Humbert—M.D. (Montpellier)—1924.

F. Herman Mollière—M.B. ; Ch.B. (Aberdeen)—1921.

## DENTISTS

During 1924 the undermentioned Dentists produced their diplomas at the office and were authorized to practise Dental Surgery in the Colony, under Ordinance No. 21 of 1906.

Gaston Henri Maurice Van Hœck—Surgeon Dentist, Faculty of Medicine (Paris) 1920.

Jean Marcel Keisler—L.D.S. ; R.C.S. (Edinburgh)—1923.

## VETERINARY SURGEON

During 1924, Mr. Gérome Garrick was authorized to practise as a Veterinary Surgeon in the Colony, under Ordinance No. 27 of 1923.

## PHARMACISTS

At the examination held in December, 1924, in accordance with the Pharmacy Ordinance, No. 19 of 1912 and Regulations No. 232 of 1913, the following candidates qualified as Pharmacists :—

- (1) Samuel BARBÉ, (2) Octave NICOLIN.

## ASSISTANT PHARMACISTS

At the examination held in May 1924, in accordance with the Pharmacy Ordinance, No. 19 of 1912 and Regulations No. 232 of 1913, the undermentioned candidates qualified as Assistant Pharmacists :—

- (1) Marc ADRIEN (2) Gaston RICAUD

## STUDENTS IN PHARMACY

At the examinations held in 1924 for the registration of Students in Pharmacy, under the provisions of Regulations No. 205 of 1913, as amended by Regulation No. 85 of 1914, the following candidates were successful :—

|                     |                         |
|---------------------|-------------------------|
| Balreep Bhoyroo     | Marie Joseph Paul Arnal |
| Dunpuh Luckeenarain | Louis Moïse Perdreau    |
| Arjoon Soocaram     | Raoul Abbas Sakir       |

## WARDERS, DISPENSERS AND NURSES

At the examination held in August 1924, the undermentioned six hospital students qualified as Warders and Dispensers :—

|                                   |     |                                |
|-----------------------------------|-----|--------------------------------|
| Gabriel Bosquet                   | ... | trained at the Civil Hospital. |
| John Andrews Frederick L'Olive    | ... | „ Moka Hospital.               |
| Louis Francis Emmanuel Sans Souci | ... | „ Poudre d'Or Hospital.        |
| Chitlall Beerund                  | ... | „ Poudre d'Or Hospital.        |
| Gilbert Antoine Martial           | ... | „ Poudre d'Or Hospital.        |
| Joseph Aurélius Fricot            | ... | „ the Civil Hospital.          |

No female student satisfied the examiners or, was granted a certificate.

## MIDWIVES

In 1924, the undermentioned persons were successful at the examinations held in Midwifery and were authorised, under Proclamation of the 10th May 1817 (Code Farquhar. No. 225), to practise midwifery in cases of normal labour, on the condition that they should submit themselves every two years to a test examination (failing which their certificate would be withdrawn) :—

1. Miss Michel trained at the Victoria Hospital
2. Miss Rochery „ „
3. Mrs. Besnard „ „
4. Miss L. Tossé „ Civil Hospital
5. Miss Bazile „ Poudre d'Or Hospital
6. Mrs. Séblin „ Victoria Hospital
7. Mrs. Rose „ Civil Hospital
8. Mrs. Nayna „ Victoria Hospital
9. Mrs. Ww. Bissière „ Civil Hospital

## CERTIFICATED SANITARY INSPECTORS

The undermentioned Sanitary Inspectors were granted the Certificate of Competency as Sanitary Inspector, of the Royal Sanitary Institute (England), after the examination held in Mauritius, in September 1924, under the auspices of that institute :—

1. Wilfrid L'ETANG
2. Noë Emmanuel TANGUY
3. A. Auguste HARTE



## APPENDIX XI.

## LEGISLATION

List of Ordinances, Proclamations and Regulations affecting the Medical & Health Department, passed during 1924.

## ORDINANCES

- No. 22.—To amend the laws on Lunacy.  
 30.—To amend and consolidate the laws relating to Opium, Morphine, Cocaine and similar drugs.  
 33.—To provide for Sanitary Rates.

## PROCLAMATIONS

- No. 12.—To designate the Powder Mills, Pamplémousses, to be used as an Asylum for the detention, and treatment therein of convict, vagrant and pauper lepers.  
 13.—The Powder Mills, Pamplémousses, to be used as part of the Lunatic Asylum.

## RULES AND REGULATIONS

- G. N. No. 208.—Cemeteries (closed)—Regulations relative to the disposal of.  
 48.—Common Lodging Houses Ordinance, 1915.—Powers under—to be exercised by the Medical & Health Department.  
 124. }  
 299. } Diet Scale in force at the Civil Hospital, Port Louis.  
 97. } Hospitals (Government)—Regulations relative to amended tariff of  
 135. } charges to be levied at—  
 279.—Hospitals (Government) —Tariff of charges for X-rays examination.  
 239.—Mental Hospital—Regulations to allow patients to take short out-of-door leave.  
 38.—Pit and Pail latrines—Regulations applying the—to part of Port Louis District.  
 56. do. do. —to the District of Savanne.  
 91. do. do. { to the town of Quatre Bornes  
 and to certain parts of the  
 districts of Plaines Wil-  
 hems and Black River.  
 158. do. do. { to the district of Plaines  
 Wilhems and to certain  
 parts of the district of  
 Black River.  
 184. do. do. { to the district of Rivière du  
 Rempart.  
 297.— do. —Amended Regulations relative to—  
 107.—Regulations made under Quarantine { Vessels leaving for Dependencies—measures  
 Consolidation Ord. 1913 { to be carried out—relative to.  
 143. do. do. { The S/V “Jane Kilgour” to be used as a  
 Quarantine Station for small-pox patients.  
 179. do. do. { Vessels leaving for South African ports—  
 measures to be carried out relative to.  
 133.—Rivers—Bathing and washing prohibited in Rivulets “Victoire” and  
 “Sevelet.”  
 134.— do. do. do. “Songe.”  
 300.— do. do. do. Ruisseau Eau Bonne,  
 Ruisseau Vaudagne,  
 Canal Leguen etc.  
 130.—Veterinary Surgeons Ordinance 1923 —Regulations made under.











